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Oil Field Emissions of Volatile Organic Compounds

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16. ABSTRACT

This report presents data that determines the composition of volatile organic compound emissions from oil production fields in Tulsa County, Oklahoma. Five points in the crude oil production process were sampled: (1) well heads, (2) gathering tasks, (3) oilfield pipeline tanks (4) pipeline terminal tanks, (5) refinery crude oil storage tanks. The samples were collected in Summa polished stainless steel canisters and analyzed by a gas chromatograph with dual flame ionization detectors. The analytical technique looked for ninety specific compounds; thirty were detected and are reported. In general the compounds in greatest abundance were ethane, propane, n-butane, 2-methyl butane, and n-pentane. The data developed under this study are for the composition of the volatile organic compounds; volatile organic compound emission rates were not determined.

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TABLE OF CONTENTS

	Page
Introduction	1
Discussion	1
Site Selection and Sample Collection	2
Sample Analysis	4
Quality Control/Quality Assurance	5
Discussion of Results	6
Conclusions	6
Recommendation	6
Figures	7
Tables	10

LIST OF TABLES

TABLE		PAGE
1	Sampling Location Information	11
2	Sample Collection Field Data	12
3	Gas Chromatograph Precision	13
4	Comparison of TCCHD and EPA Data	14
5	Comparison of TCCHD and EPA Data	15
6	Comparison of GSQ and DB 1 Data	16
7	Well Head samples (Water Flood) - Glenn Sand	17
8	Well-Heads (Gas Wells) - (Dutcher)	18
9	Well-Heads (Water Flood) - Redfork	19
10	Gathering Tanks	20
11	Pipeline Tanks	21
12	Terminal Tanks (Mixed Crude)	22
13	Refinery Tanks	23
14	Compounds Analyzed	24
15	Well-Heads (Water Flood) - Glen Sand (1001)	26
16	Well-Heads (Water Flood) - Glen Sand (1002)	27
17	Well-Heads (Water Flood) - Glen Sand (1005)	28
18	Well-Heads (Water Flood) - Glen Sand (1006)	29
19	Well-Heads (Water Flood) - Glen Sand (1012)	30
20	Well-Heads (Water Flood) - Glen Sand (1013)	31
21	Well-Heads (Water Flood) - Glen Sand (1014)	32
22	Well-Heads (Water Flood) - Glen Sand (1015)	33
23	Well-Heads (Water Flood) - Glen Sand (1040)	34
24	Well-Heads (Gas Wells) - Dutcher (1009)	35
25	Well-Heads (Gas Wells) - Dutcher (1010)	36
26	Well-Heads (Gas Wells) - Dutcher (1016)	37
27	Well-Heads (Gas Wells) - Dutcher (1017)	38
28	Well-Heads (Water Flood) - Redfork (1028)	39
29	Well-Heads (Water Flood) - Redfork (1029)	40
30	Well-Heads (Water Flood) - Redfork (1030)	41
31	Well-Heads (Water Flood) - Redfork (1031)	42
32	Well-Heads (Water Flood) - Redfork (1036)	43
33	Well-Heads (Water Flood) - Redfork (1037)	44
34	Well-Heads (Water Flood) - Redford (1038)	45
35	Well-Heads (Water Flood) - Redford (1039)	46
36	Gathering Tanks (1003)	47
37	Gathering Tanks (1004)	48
38	Gathering Tanks (1007)	49
39	Gathering Tanks (1008)	50
40	Gathering Tanks (1011)	51
41	Gathering Tanks (1018)	52
42	Gathering Tanks (1019)	53
43	Pipeline Tanks (1020)	54
44	Pipeline Tanks (1021)	55
45	Pipeline Tanks (1022)	56

LIST OF TABLES

TABLE		PAGE
46	Pipeline Tanks (1023)	57
47	Terminal Tanks (1032)	58
48	Terminal Tanks (1033)	59
49	Terminal Tanks (1034)	60
50	Terminal Tanks (1035)	61
51	Refinery Tanks (1024)	62
52	Refinery Tanks (1025)	63
53	Refinery Tanks (1026)	64
54	Refinery Tanks (1027)	65

LIST OF FIGURES

FIGURE		PAGE
1	Crude Oil Production	8
2	Deviation Of Measured NIST Propone Response From Certified Value July - October 1988	9

INTRODUCTION

This work was done to determine the volatile organic compound composition of oilfield emissions.

Existing oilfield production data in the Air Emission Species Manual, (EPA-450/2-88-003a), did not define the precise location from which the sample was taken nor did it describe the type of crude. This study defines the sample locations.

All of the crude oil production in Tulsa County is from formations which have been producing oil for as long as thirty (30) years. The composition of gas streams from this type production are different than those from a new field.

While gas emissions from Tulsa County crude oil production is relatively low because the wells are old producers, the total impact on the environment is appreciable. There is little vapor control of the light ends of the crude oil production until it reaches the oilfield pipeline tanks.

This work will help to determine whether or not these oilfield emissions impact Tulsa County air quality. The high propane levels would make it appear to do so. From data accumulated in 1984/1985, there was a definite correlation between high propane levels and high ozone levels.

DISCUSSION

Each producing oilfield in the world has its unique "finger-print". The composition of the crude and the attendant gas is different for each field. However, crude stock have been historically classified as Paraffinic, Intermediate or Naphthenic. A paraffinic stock is used for lube oil manufacture. It generally has a high concentration of straight chain hydrocarbons and is relatively low in sulfur compounds. A naphthenic stock is used for asphalt manufacture. It generally has a high concentration of olefins and aromatic hydrocarbons and can contain a high concentration of sulfur compounds.

The "Oklahoma Sweet" crude oil is a paraffin/intermediate based crude oil which is low in sulfur compounds and is excellent for lube manufacture. On a scale of 1 to 10, where a Pennsylvania stock would be rated as 1, this "Oklahoma Sweet" would rate from 3 to 4.

The physical properties of the crude oils produced in Tulsa County are as follows:

API Gravity	35 to 39
Sulfur %	0.1 to 0.4
Viscosity, SSU @ 100 Degrees Fahrenheit	38 to 42
Cracking Stock, %, 400 - 900 Degrees F	47 to 51
Lube Distillate, %, 700 - 900 Degrees F	16 to 20

These Tulsa County crudes are produced from geological formations which are composed of sand. The formation which produces the crude oil is called the "pay" formation. The pay formations in Tulsa County are the Glen Sand, Dutcher, Redfork and the Bartlesville.

Over 90% of the producing wells in Tulsa County are water flood with crude oil production of from one (1) to ten (10) barrels per day. Water used in these operations is recycled back into the pay formation. In one (1) area sampled where the crude oil is produced from a gas drive, the gas was being vented to the atmosphere. These wells produce a maximum of 10,000 cubic feet of gas per day.

SITE SELECTION & SAMPLE COLLECTION

There can be five (5) points in the crude oil production process where volatile organic compounds are emitted to the atmosphere. One (1) or more intermediate tankage points can be omitted in a specific production system, but generally all five (5) are present. These five (5) points are:

1. The Well Heads: This includes gauges, valves and fittings. When the bottom hole pressure is too low to force the crude oil to the surface, it also includes a pump. Most wells in Tulsa County fall into this category.

2. Gathering Tanks: These tanks may service one (1) or more wells. Each gathering tank location will contain at least one (1) water separation tank and two (2) 100 to 500 barrel crude oil tanks. All these are vented to the atmosphere.

3. Oilfield Pipeline Tanks: These are intermediate size tanks, (1,000 to 50,000 barrels), which receive the crude oil from the gathering tanks. Most of these are fixed roof tanks with internal floating roofs with seals.

4. Pipeline Terminal Tanks: These are generally large tanks, (up to 100,000 barrels), which receive the crude oil from oilfield pipeline tanks. They are equipped with an internal floating roof with seal or an external floating roof with double seals.

5. Refinery Crude Oil Storage Tanks: These tanks receive the crude oil from the terminal tanks. From them, the crude oil is charged to the refinery crude distillation unit. They are 50,000 to 100,000 bbl capacity and are equipped with an internal floating roof with seal or an external floating roof with double seals.

All the samples were collected in 6.0 liter, Summa polished stainless steel canisters, (Model #090355, D & S Instruments, Ltd., Pullman, WA 99163). Before sampling, the canisters were thoroughly cleaned with zero air by repeated filling and evacuation steps. Cleaned canisters were then checked for hydrocarbon traces by performing GC blank runs. The canisters, free from HC traces, were pressurized to 15 psi with zero air and stored for later use. The canisters were evacuated to 25 inches of mercury just before dispatching to the field for sample collection.

Each sample canister was fitted with a capillary restrictor on the inlet valve to facilitate controlled sample collection. During sample collection, the restrictor was inserted into an appropriate opening and the inlet valve was opened for ten (10) minutes. After ten (10) minutes time, the inlet valve was closed and the canister was transported to the laboratory for analysis.

Sampling points are described in Figure #1.

Samples were collected from "well heads" at the chemical addition nozzle and from all the "tanks" at the top of tank manholes. All wells sampled were pumping at the time the samples were taken. Ambient temperature ranged from 75 to 96 degrees Fahrenheit.

A total of forty (40) samples were taken at the following points in the crude collection system:

	Number of Samples	Number of Sample Points
Water Flood Well Heads	17	8
Gas Drive Well Heads	4	2
Gathering Tanks	7	2
Pipeline Tanks	4	1
Tank Farm Tanks	4	1
Refinery Tanks	4	2
TOTAL	**40**	**16**

Pertinent data for all samples taken are shown in Tables 1 & 2.

SAMPLE ANALYSIS

Sample canisters transported to the laboratory, were set for about one (1) hour for temperature equilibrium and then pressurized to 15 psi with zero air. Pressurized canisters were set for three (3) hours or more, before 100 ml aliquot was transferred to another 6.0 liter canister for dilution. Majority of the samples required two (2) dilutions to bring hydrocarbon concentration levels down to a workable range.

The analytical system used in this work consisted of a Hewlett-Packard 5880-A Gas Chromatograph (GC) fitted with dual FID and sub-ambient temperature accessories. The GC was equipped with a microprocessor controlled data processing system. Two (2) different fused silica capillary columns were used for the analysis. One of the two (2) columns was 60 meter long, 0.32 mm internal diameter, coated with 1.0 mm thick DB1 methyl silicone film. This column was used for separation and quantitation of C_2-C_{10} hydrocarbons. Another column was 30 meter long, 0.52 mm internal diameter, coated with GSQ phase. The second column was mainly used for the separation and quantitation of C_2 & C_3 hydrocarbons. Both the columns were from J & W Scientific, Folsom, California. Ultrapure Helium, Ultrapure Hydrogen and Ultrazero Air, (Scott-Marrin, Riverside, California), were used for carrier and combustion gases, respectively.

The analytical technique involved the use of cryogenic pre-concentration and high resolution gas chromatographic separation. With this technique, a known volume of an air sample, (150 ml), was drawn through a stainless steel trap, (15 cm x 0.30 cm), containing 60/80 mesh glass beads immersed in liquid oxygen, for pre-concentration of trace level hydrocarbons. The concentrate was vaporized by immersing the trap in hot water, (80 degrees C), and then injected into the column maintained at -50 Degrees C. Sample injection was accomplished by using a 6-port gas sampling valve, (Valco Instruments, Houston, Texas). The DB1 column was temperature programmed from -50 Degrees C to +220 Degrees C at 8 degrees/minute with initial and final hold times of 1.2 and 5.0 minutes, respectively. The GSQ column was temperature programmed from 45 degrees C to 170 degrees C at 15 degrees/minute with initial and final hold times of 2.5 and 5.0 minutes, respectively. Microprocessor controlled data processing system identified the individual hydrocarbons on the basis of retention times.

QUALITY CONTROL/QUALITY ASSURANCE

The gas chromatograph was calibrated once a week with N.I.S.T. standard reference material #1665-B-Propane in Air, a nominal concentration of 3.0 ppm. The carbon response, (RF), was calculated and recorded in a log book. The deviation in RF values over a period of about 80 days was only + or - 2.3% of the initial value, (Figure 2).

Duplicate chromatographic runs were performed on each sample. The sample volume in the second run was twice that of the first run. The concentration of individual hydrocarbons, (HC's), was calculated as a mean of these two (2) runs. A good agreement was observed between the duplicates with an acceptable standard deviation, (Table 2), however, ethane showed some exceptions. In some runs, ethane concentration was not doubled when the sample volume was doubled. Overall precision was good.

The GC instrument's reproducibility, and the analytical method's accuracy, is highlighted by analyzing pairs of samples from the same source. Example: #1009 and 1010; 1016 and 1017, 1028 and 1029; 1030 and 1031; 1036 and 1037; 1038 and 1039, etc. Both totals, a sum of 6 compounds as a percent of TNMHC, as well as a sum of 30 compounds as a percent of TNMHC showed very good agreement.

In addition to this, split samples were sent to Dr. Lonneman at the Environmental Protection Agency, (EPA), for interlaboratory comparisons. Our numbers for individual HC's are generally 15 to 20% lower than that of the EPA numbers. However, there is a very good agreement when the ratios of individual members and TNMHC are compared (Tables 4 & 5).

Added to this, all the samples were also analyzed in duplicate runs on a GSQ column. Only the first six (6) compounds, (ethane through pentane), were quantitated and the numbers compared with that of DB1. Generally, the numbers were lower on the GSQ with a deviation of up to 8%. However, the deviations were much larger with respect to isoalkanes, (Table 6). An explanation for this is beyond the scope of this study.

DISCUSSION

The data generated is presented in two (2) sets of tables, (Tables 7-54). In one (1) set of Tables, the first six (6) compounds, (ethane to pentane), for each sample are presented. In the other set, thirty (30) of the most common compounds for each sample are presented. A review of the data suggests the following general trends and profiles.

a) Propane is the most abundant of all the hydrocarbons in 16 out of 21 well head samples.

b) Light ends, (ethane to Pentane), constitute greater than 90% of TNMHC in the case of all the well head samples, except #1001, 1005, 1006 and 1012, which appear to have questionable compositions. An air leak is suspected in these four (4) samples, either in the sampling or in the dilution stages. This is reflected in the concentration levels of (m+p)-xylenes. The percent weight of xylenes, in these four (4) samples, is much higher than in any of the remaining thirty-six (36) samples.

c) All the forty (40) samples were analyzed for up to ninety-one (91) hydrocarbons, (Table 14). Thirty (30) most common of these compounds account for greater than 90% of TNMHC. This is true for all the samples, except terminal tank samples, which account for only 85% of TNMHC. Sample number 1011 is an exception, which accounts for only 60% of TNMHC. It is suspected that this sample had an air leak similar to the ones discussed in Section (b).

d) There is a significant loss of light ends as the crude moves from the well head to the refinery storage tank.

CONCLUSIONS:

This study further substantiates our opinion that propane rich sources, (oilfield VOC's), have significant contributions to the hydrocarbon pollution in the Tulsa urban air. This opinion is also in agreement with our previous work, (#87-61.5), presented at the 80th Annual APCA Meeting held at New York in the year 1987.

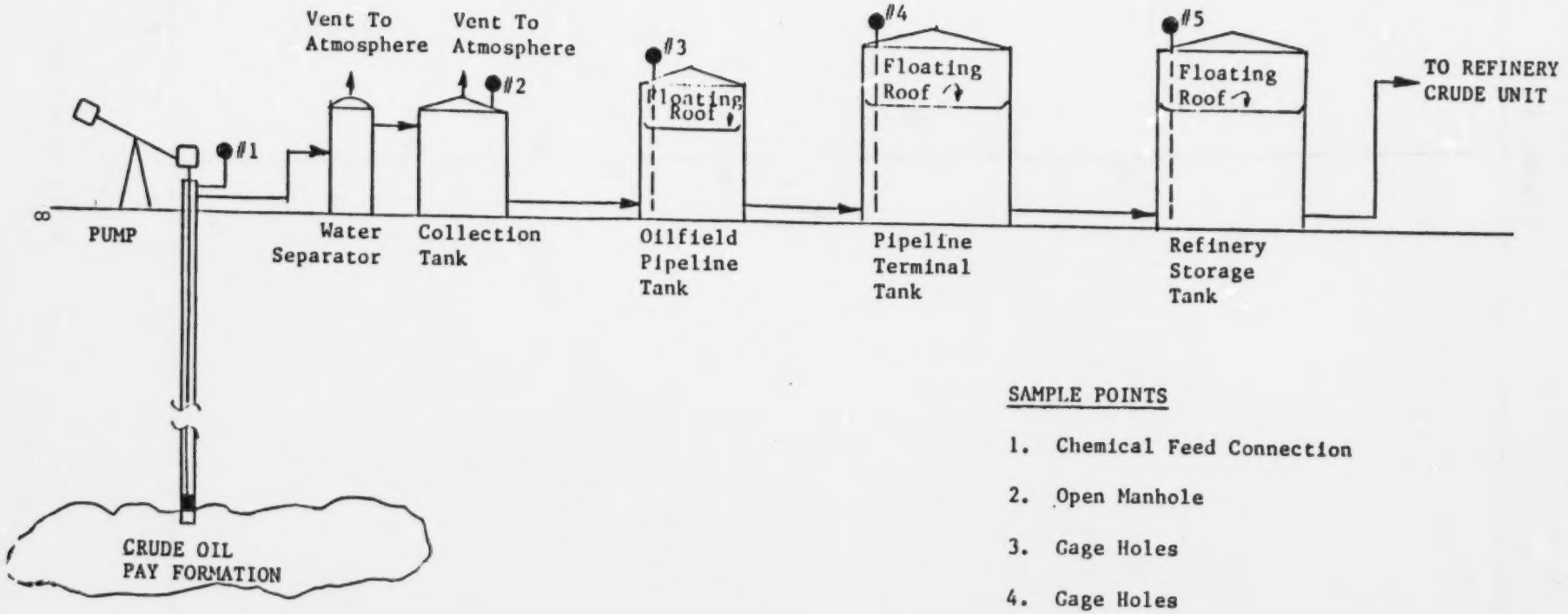
RECOMMENDATION:

It would be useful to extend this study in order to determine the source contribution of oilfield VOC's to the total hydrocarbon pollution.

RSV:JHVS:kcc:AQ89340

FIGURES

CRUDE OIL PRODUCTION



SAMPLE POINTS

1. Chemical Feed Connection
2. Open Manhole
3. Gage Holes
4. Gage Holes
5. Gage Holes

Figure 1

Deviation of measured NIST Propane response from
certified value July - October 1988

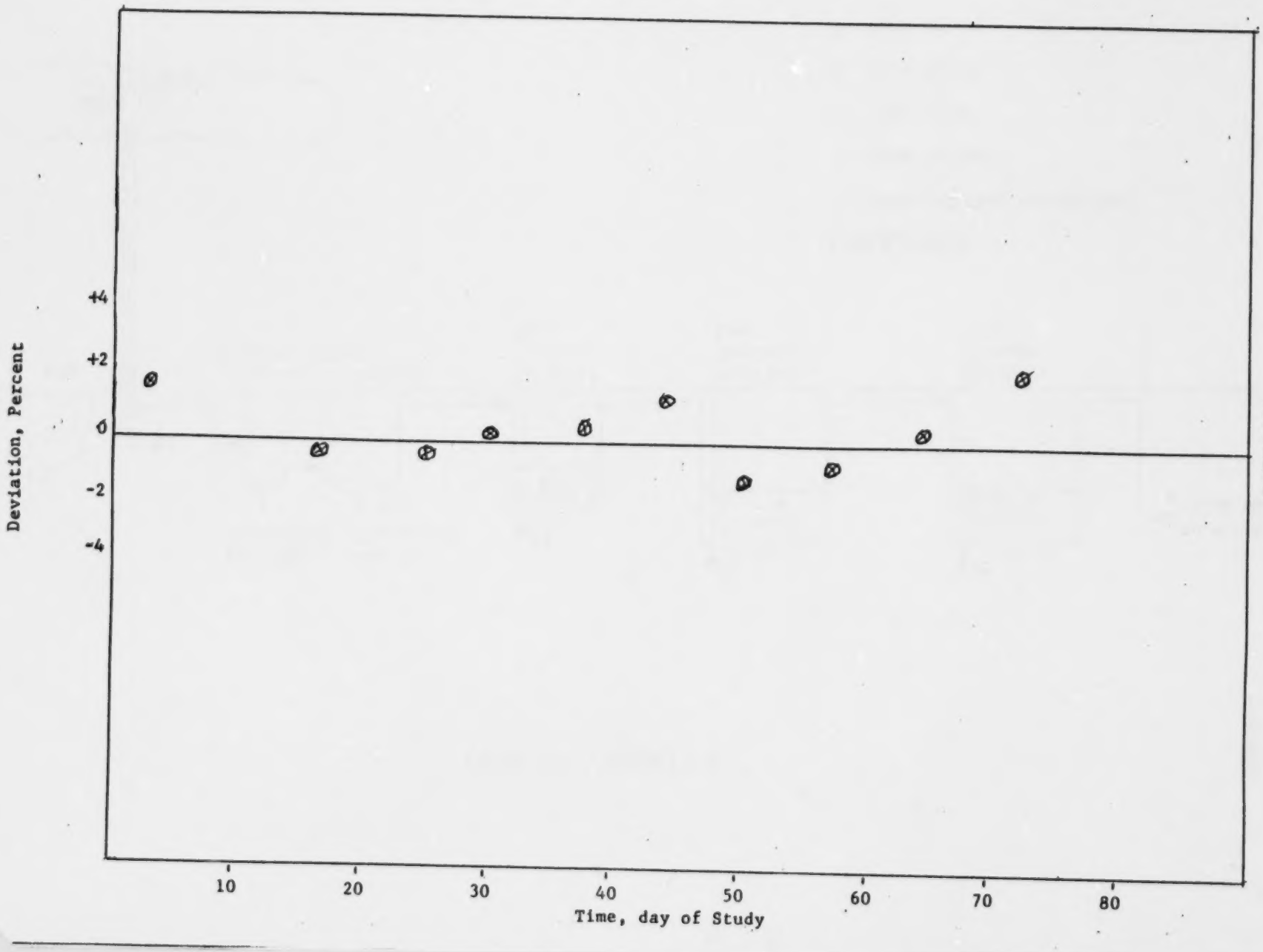


FIGURE 2

TABLES

TABLE 1

NUMBER OF SAMPLES	SAMPLE POINT	BPD	LOCATION DESCRIPTION	PAY FORMATION	FORMATION DEPTH	API GRAVITY	TYPE DRIVE
5	Wellhead	8	Gemini Oil-Toklan #3	Glen Sand	1500	36	WF
4	Wellhead	8	Gemini Oil-Ispocagee #8	Glen Sand	1500	36	WF
2	Wellhead	8	Christian Lease Well #1	Dutcher	1400	35	Gas
2	Wellhead	8	Christian Lease Well #2	Dutcher	1400	35	Gas
2	Wellhead	2	Brewer Oil RSV2 Well #31	Redfork	1300	39	WF
2	Wellhead	1	Brewer Oil RSV2 Well #32	Redfork	1300	39	WF
2	Wellhead	2	Brewer Oil RSV3 Well #5	Redfork	1300	39	WF
2	Wellhead	2	Brewer Oil RSV3 Well #6	Redfork	1300	39	WF
		Size Bbls					
4	Gathering Tks	200	Gemini #773020 #3 & #8	Glen Sand		36	
3	Gathering Tks	200	Christian Lease Wells 1&2	Dutcher		35	
4	Pipeline Tks	4000	Sinclair Terminal	Mixed Sweet		37	
4	Tank Farm Tks	1600	Bow Pipeline Company	Mixed Sweet		38	
2	Refinery Tks	107M	Sinclair Refinery	Mixed Sweet		37	
2	Refinery Tks	55M	Sun Refinery	Mixed Sweet		37	
40	TOTAL						

TABLE 2

DATE 1988	SAMPLE NUMBER	SAMPLE LOCATION COMPANY NAME & LEASE	SAMPLE POINT	AMBIENT TEMPERATURE DEGREES FAHRENHEIT	WIND DIRECTION	WIND SPEED
08/04	1001	GEMINI - TOKLAN 3	WELLHEAD	85	SW	5
08/04	1002	GEMINI - ISPOCAGEE 3	WELLHEAD	85	SW	5
08/04	1003	GEMINI - TOKLAN 3	GATHERING TANK	85	SW	5
10/10	1004	GEMINI - TOKLAN 3	GATHERING TANK	72	W	8
08/10	1005	GEMINI - TOKLAN 3	WELLHEAD	85	S	5
08/10	1006	GEMINI - TOKLAN 3	WELLHEAD	85	S	5
08/10	1007	GEMINI - TOKLAN 3	GATHERING TANK	85	S	5
08/10	1008	GEMINI - TOKLAN 3	GATHERING TANK	85	S	5
08/12	1009	KAYO - CHRISTIAN 1	WELLHEAD	80	S	3
08/12	1010	KAYO - CHRISTIAN 2	WELLHEAD	80	S	3
08/12	1011	KAYO - CHRISTIAN 1 & 2	GATHERING TANK	80	S	3
08/22	1012	GEMINI - TOKLAN 3	WELLHEAD	80	SE	8
08/22	1013	GEMINI - ISPOCAGEE 8	WELLHEAD	80	SE	8
08/22	1014	GEMINI - ISPOCAGEE 8	WELLHEAD	80	SE	8
08/22	1015	GEMINI - ISPOCAGEE 8	WELLHEAD	80	SE	8
08/29	1016	KAYO - CHRISTIAN 1	WELLHEAD	75	S	5
08/29	1017	KAYO - CHRISTIAN 1	WELLHEAD	75	S	5
08/29	1018	KAYO - CHRISTIAN 1 & 2	GATHERING TANK	75	S	5
08/29	1019	KAYO - CHRISTIAN 1 & 2	GATHERING TANK	75	S	5
09/06	1020	SINCLAIR TERMINAL	PIPELINE TANK	80	S	3
09/06	1021	SINCLAIR TERMINAL	PIPELINE TANK	80	S	3
09/06	1022	SINCLAIR TERMINAL	PIPELINE TANK	80	S	3
09/06	1023	SINCLAIR TERMINAL	PIPELINE TANK	80	S	3
09/12	1024	SINCLAIR REFINERY	REFINERY TANK	96	SSW	8
09/12	1025	SINCLAIR REFINERY	REFINERY TANK	96	SSW	8
09/12	1026	SUN REFINERY	REFINERY TANK	96	SSW	8
09/12	1027	SUN REFINERY	REFINERY TANK	96	SSW	8
09/19	1028	BROWER - RSU 2	WELLHEAD	75	W	10
09/19	1029	BROWER - RSU 2	WELLHEAD	75	W	10
09/19	1030	BROWER - RSU 2	WELLHEAD	75	W	10
09/19	1031	BROWER - RSU 2	WELLHEAD	75	W	10
09/26	1032	BOW PIPELINE	TERMINAL TANK	78	S	12
09/26	1033	BOW PIPELINE	TERMINAL TANK	78	S	12
09/26	1034	BOW PIPELINE	TERMINAL TANK	78	S	12
09/26	1035	BOW PIPELINE	TERMINAL TANK	78	S	12
10/03	1036	BROWER - RSU 3	WELLHEAD	80	S	5
10/03	1037	BROWER - RSU 3	WELLHEAD	80	S	5
10/03	1038	BROWER - RSU 6	WELLHEAD	80	S	5
10/03	1039	BROWER - RSU 6	WELLHEAD	80	S	5
10/10	1040	GEMINI - TOKLAN 3	WELLHEAD	72	W	8

TABLE 3

Sample #: 1032 Point Source: Gas Chromatographs Precision

Species Name	Run 1	Run 2	Run 3	Run 4	Average	Std. dev(S)	3S
Ethane	7.6	7.5	8.1	8.3	7.9	± 0.4	± 1.2
Propane	72.4	76.5	75.5	77.4	75.4	± 2.2	± 6.6
2-me-propane	99.9	105.5	104.1	106.1	103.9	± 2.8	± 8.4
n-butane	217.7	225.2	220.5	225.1	222.1	± 3.7	±11.1
2-me-butane	218.5	227.9	223.2	228.6	224.6	± 4.7	±14.1
n-pentane	218.4	219.6	213.6	218.6	217.6	± 2.7	± 7.1
2,2-dime-butane	6.8	7.1	6.9	7.1	7.0	± 0.2	± 0.6
Cyclopentane	45.9	47.3	46.0	47.2	46.6	± 0.8	± 2.4
2,3-dime-butane	23.7	24.8	24.3	25.1	24.5	± 0.6	± 1.8
2-me-pentane	120.1	122.3	119.5	122.6	121.1	± 1.6	± 4.7
3-me-pentane	71.1	72.5	71.1	73.0	71.9	± 1.0	± 3.0
n-hexane	118.8	114.3	101.5	107.0	110.4	± 7.7	±23.1
me-cyclopentane	161.3	164.6	164.2	168.2	164.6	± 2.8	± 8.4
2,4-dime-pentane	8.6	8.6	8.8	8.8	8.7	± 0.1	± 0.3
Benzene	16.1	14.2	11.7	11.8	13.4	± 2.1	± 6.3
Cyclohexane	100.7	104.6	102.5	106.2	103.5	± 2.4	7.2
2-me-hexane	27.1	25.0	20.5	21.8	23.6	± 3.0	9.0
2,3-dime-pentane	18.1	17.6	17.7	18.2	17.9	± 0.3	0.9
3-me-hexane	37.7	34.6	30.1	32.0	33.6	± 3.3	9.9
2,2,4-trime-pentane	66.7	69.2	67.2	68.9	68.0	± 1.2	3.6
n-heptane	52.0	52.9	47.7	47.1	49.9	3.0	9.0
me-cyclohexane	135.2	134.5	132.8	135.8	143.6	± 1.2	3.6
Toluene	19.6	19.1	18.9	19.6	19.3	± 0.4	1.2
2-me-heptane	24.1	24.0	23.4	23.9	23.8	± 0.3	0.9
3-me-heptane	11.7	10.8	11.5	11.8	11.4	± 0.4	1.2
n-octane	11.9	13.0	12.6	13.0	12.6	± 0.5	1.5
Ethylcyclohexane	13.5	13.8	13.2	13.4	13.5	± 0.3	0.9
Ethylbenzene	4.4	4.5	4.2	4.4	4.4	± 0.1	0.3
m+p-xylene	15.7	15.5	15.1	16.0	15.6	± 0.4	1.2
o-xylene	3.7	3.6	3.4	3.7	3.6	± 0.1	0.3
NMHC (30 Compds.)	1949.0	1980.6	1919.8	1970.7	1955.0	±26.9	80.8
NMHC (All Compds.)	2328.1	2340.5	2262.8	2335.6	2316.8	±36.3	108.9
Total of 30 Compds. as % TNMHC	83.7	84.6	84.8	84.4	84.4		

TABLE 4

Sample #: 1040 Point Source: Comparison of TCCHD & EPA Data

Species Name	TCCHD	EPA	% diff.				
Ethane	2085.6	2197.0	5.1				
Propane	4188.9	4145.0	1.0				
2-me-propane	928.5	963.3	3.6				
n-butane	2074.1	2067.9	0.3				
2-me-butane	531.5	556.5	4.5				
n-pentane	537.0	577.6	7.0				
2,2-dime-butane	4.2	4.7	10.6				
Cyclopentane	34.6	39.4	12.2				
2,3-dime-butane	11.8	13.3	11.3				
2-me-pentane	110.6	126.1	12.3				
3-me-pentane	60.4	70.6	14.4				
n-hexane	108.3	151.0	28.3				
me-cyclopentane	80.4	90.5	11.2				
2,4-dime-pentane	2.2	3.6	38.9				
Benzene	5.9	6.0	1.7				
Cyclohexane	34.1	40.0	14.8				
2-me-hexane	15.2	26.5	19.6				
2,3-dime-pentane	6.1						
3-me-hexane	20.5	24.7	17.0				
2,2,4-trime-pentane	27.0	-	-				
n-heptane	39.3	44.4	11.5				
me-cyclohexane	27.0	40.2	32.8				
Toluene	5.9	6.3	6.4				
2-me-heptane	11.1	10.3	7.2				
3-me-heptane	4.8	5.3	9.4				
n-octane	14.6	13.8	5.5				
Ethylcyclohexane	4.1	2.0	51.2				
Ethylbenzene	1.8	1.5	16.7				
m+p-xylene	-	2.7	-				
o-xylene	1.0	0.5	50.0				
NMHC (30 Compds.)	10949.5	11228.1	2.5				
NMHC (All Compds.)	11084.4	11378.9	2.6				
Total of 30 Compds. as % TNMHC	98.8	98.7	0.1				

TABLE 5

Sample #: 1040 Point Source: Comparison of TCCHD & EPA Data

Species Name	TCCHD	EPA	% diff.				
Ethane	2085.0	2197.0	5.1				
Propane	4188.9	4145.0	1.0				
2-me-propane	928.5	963.4	3.6				
n-butane	2074.1	2067.9	0.3				
2-me-butane	531.5	556.5	4.5				
n-pentane	537.0	577.0	7.0				
2,2-dime-butane							
Cyclopentane							
2,3-dime-butane							
2-me-pentane							
3-me-pentane							
n-hexane							
me-cyclopentane							
2,4-dime-pentane							
Benzene							
Cyclohexane							
2-me-hexane							
2,3-dime-pentane							
3-me-hexane							
2,2,4-trime-pentane							
n-heptane							
me-cyclohexane							
Toluene							
2-me-heptane							
3-me-heptane							
n-octane							
Ethylcyclohexane							
Ethylbenzene							
m+p-xylene							
o-xylene							
NMHC (6 Compds.)	10345.6	10507.4	1.5				
NMHC (All Compds.)	11084.4	11378.8	2.6				
Total of 6 Compds. as % TNMHC	93.3	92.3	1.1				

TABLE 6

Sample #: 1040 Point Source: Comparison of GSQ & DB1 Data

Species Name	GSQ	DB1	% diff.				
Ethane	1928.3	2085.6	7.5				
Propane	3924.7	4188.9	6.3				
2-me-propane	808.3	928.5	13.0				
n-butane	1922.0	2074.1	7.3				
2-me-butane	456.9	531.5	14.0				
n-pentane	525.7	537.0	2.1				
2,2-dime-butane							
Cyclopentane							
2,3-dime-butane							
2-me-pentane							
3-me-pentane							
n-hexane							
me-cyclopentane							
2,4-dime-pentane							
Benzene							
Cyclohexane							
2-me-hexane							
2,3-dime-pentane							
3-me-hexane							
2,2,4-trime-pentane							
n-heptane							
me-cyclohexane							
Toluene							
2-me-heptane							
3-me-heptane							
n-octane							
Ethylcyclohexane							
Ethylbenzene							
m+p-xylene							
o-xylene							
NMHC (6 Compds.)	9565.9	10345.6	7.5				
NMHC (All Compds.)	11084.4	11084.4					
Total of 6 Compds. as % TNMHC	86.3	93.3					

TABLE 7

Point Source: Well-head Samples (water flood) - Glenn Sand

Sample Number	Ethane	Propane	2-me-propane	n-butane	2-me-butane	n-pentane	TNMHC	Total of 6 Compds.	Total of 6 Compds. as % TNMHC	Total of 30 Compds.	Total of 3(Compds. as % TNMHC
1001	(5) 269.0	(2) 580.8	(6) 210.1	(1) 630.0	(4) 389.7	(3) 535.2	11598.3	2614.8	22.5	7334.6	63.2
1002	(6) 867.4	(1) 3150.4	(4) 949.5	(2) 2782.9	(5) 888.8	(3) 1130.5	12200.1	9769.5	80.1	11553.6	94.7
1005	(2) 117.2	(1) 151.2	(5) 40.7	(3) 94.5	(6) 26.3	(4) 46.3	5295.4	476.2	9.0	2055.2	38.8
1006	(2) 45.3	(1) 52.3		(3) 29.2		(4) 7.7	1150.2	134.5	11.7	556.6	48.4
1012	(6) 8.9	(1) 106.2	(3) 34.8	(2) 91.6	(4) 22.3	(5) 17.4	577.7	281.2	48.7	370.3	64.1
1013	(6) 379.2	(1) 1318.6	(4) 417.1	(2) 1205.4	(5) 398.2	(3) 542.1	5767.6	4260.6	73.9	5226.7	90.6
1014	(6) 140.0	(1) 488.6	(4) 156.5	(2) 455.6	(5) 146.4	(3) 189.2	2026.3	1576.3	77.8	1914.2	94.5
1015	(6) 154.5	(1) 536.9	(4) 172.9	(2) 502.8	(5) 159.6	(3) 204.8	2219.1	1731.5	78.0	2096.5	94.5
1040	(2) 2066.1	(1) 4146.6	(4) 919.0	(3) 2047.2	(6) 518.4	(5) 519.2	10906.9	10216.5	93.7	10803.0	99.0

TABLE 8

Point Source: Well-heads (Gas Wells) - Dutcher

Sample Number	Ethane	Propane	2-me-propane	n-butane	2-me-butane	n-pentane	TNMHC	Total of 6 Compds.	Total of 6 Compds. as % TNMHC	Total of 30 Compds.	Total of 3 Compds. as % TNMHC
1009	(3) 2407.8	(1) 4395.5	(5) 867.5	(2) 2865.1	(6) 751.2	(4) 888.5	13616.7	12175.6	89.4	13581.1	99.7
1010	(3) 2326.0	(1) 4312.2	(5) 845.6	(2) 2821.7	(6) 743.8	(4) 869.7	13294.0	11919.0	89.7	13287.8	100.0
1016	(3) 1376.5	(1) 2657.8	(4) 525.4	(2) 1757.0	(6) 452.6	(5) 524.0	8027.4	7293.3	90.9	8056.0	100.4
1017	(3) 302.1	(1) 578.8	(4) 114.9	(2) 376.3	(6) 97.2	(5) 106.2	1732.3	1575.5	91.0	1711.2	98.8

TABLE 9

Point Source: Well-Heads (water flood) - Redfork

Sample Number	Ethane	Propane	2-me-propane	n-butane	2-me-butane	n-pentane	TNMHC	Total of 6 Compds.	Total of 6 Compds. as % TNMHC	Total of 30 Compds.	Total of 3 Compds. as % TNMHC
1028	(3) 963.0	(1) 3411.1	(4) 952.8	(2) 2752.3	(6) 758.3	(5) 937.4	11155.5	9774.9	87.6	10995.8	98.6
1029	(4) 371.3	(1) 1333.9	(3) 371.7	(2) 1052.8	(6) 293.7	(5) 359.3	4347.0	3782.7	87.0	4275.0	98.3
1030	(5) 686.9	(1) 2547.8	(3) 715.1	(2) 2081.2	(6) 577.2	(4) 708.7	8337.6	7316.9	87.8	8222.7	98.6
1031	(4) 389.2	(1) 1410.9	(3) 393.4	(2) 1130.0	(6) 316.2	(5) 385.1	4601.2	4024.8	87.5	4530.8	98.5
1036	(5) 245.9	(2) 496.0	(6) 181.1	(1) 671.7	(4) 329.5	(3) 454.8	3889.0	2379.0	61.2	3596.4	92.5
1037	(5) 267.4	(2) 535.3	(6) 197.5	(1) 732.0	(4) 362.0	(3) 505.0	4280.3	2599.2	60.7	3950.0	92.3
1038	(5) 265.6	(2) 531.2	(6) 195.5	(1) 726.1	(4) 357.2	(3) 493.6	4238.1	2569.2	60.6	3905.9	92.2
1039	(5) 346.4	(2) 702.6	(6) 258.6	(1) 962.3	(4) 475.6	(3) 661.5	5653.0	3407.0	60.3	5195.8	91.9

TABLE 10

Point Source: Gathering Tanks

Sample Number	Ethane	Propane	2-me-propane	n-butane	2-me-butane	n-pentane	TNMHC	Total of 6 Compds.	Total of 6 Compds. as % TNMHC	Total of 30 Compds.	Total of 30 Compds. as % TNMHC
	(3)	(1)	(4)	(2)	(6)	(5)					
1003	684.3	1738.8	473.6	1082.8	343.5	386.4	5707.8	4709.4	82.5	5289.9	92.6
	(2)	(1)	(4)	(3)	(5)	(6)					
1004	901.7	1798.4	399.3	880.6	225.8	219.6	4664.9	4425.4	94.9	4662.0	99.4
	(3)	(1)	(4)	(2)	(6)	(5)					
1007	362.7	926.9	274.4	632.2	202.6	218.2	3059.1	2617.0	85.6	2919.3	95.4
	(3)	(1)	(4)	(2)	(5)	(6)					
1008	175.6	440.4	128.5	296.9	94.0	92.7	1447.3	1228.1	84.9	1370.9	94.7
	(5)	(3)	(6)	(1)	(4)	(2)					
1011	48.9	133.1	40.4	196.9	82.6	158.5	2920.6	660.4	22.6	1751.3	60.0
	(6)	(2)	(5)	(1)	(4)	(3)					
1018	123.2	711.4	212.0	826.7	260.2	310.4	3015.4	2443.9	81.0	2920.9	96.9
	(6)	(2)	(5)	(1)	(4)	(3)					
1019	188.5	1107.9	332.7	1304.2	414.4	501.5	4823.0	3849.2	79.8	4665.3	96.7

TABLE 11

Point Source: Pipeline Tanks

Sample Number	Ethane	Propane	2-me-propane	n-butane	2-me-butane	n-pentane	TNMHC	Total of 6 Compds.	Total of 6 Compds. as % TNMHC	Total of 30 Compds.	Total of 30 Compds. as % TNMHC
1020	(5) 1086.9	(1) 6196.0	(6) 601.4	(3) 2716.2	(2) 2930.8	(4) 2613.7	18249.2	16145.0	88.5	18075.5	99.0
1021	(5) 902.1	(1) 5130.7	(6) 492.7	(3) 2229.5	(2) 2399.5	(4) 2135.1	14935.8	13289.6	89.0	14833.2	99.3
1022	(5) 1208.2	(4) 7053.9	(6) 1030.2	(3) 7827.3	(1) 18418.5	(2) 15485.7	65004.3	51023.8	78.5	62178.7	95.7
1023	(5) 5726.6	(4) 33748.9	(6) 4966.3	(3) 37156.7	(1) 86910.7	(2) 71808.2	294311.2	240317.4	81.7	285227.5	96.9

TABLE 12

Point Source: Terminal Tanks (mixed crude)

Sample Number	Ethane	Propane	2-me-propane	n-butane	2-me-butane	n-pentane	TNMHC	Total of 6 Compds.	Total of 6 Compds. as % TNMHC	Total of 30 Compds.	Total of 30 Compds. as % TNMHC
	(6)	(5)	(4)	(2)	(1)	(3)					
1032	7.9	75.4	103.9	222.1	224.6	217.6	2316.8	851.5	36.8	1955.0	84.4
	(6)	(5)	(4)	(2)	(1)	(3)					
1033	6.5	61.8	83.7	178.5	182.4	176.3	1902.1	689.2	36.2	1610.5	84.7
	(6)	(5)	(4)	(2)	(1)	(3)					
1034	6.1	58.6	78.7	166.7	170.2	164.1	1744.4	644.4	36.9	1494.6	85.7
	(6)	(5)	(4)	(2)	(1)	(3)					
1035	5.8	54.1	74.0	155.3	159.1	152.2	1593.3	600.5	37.7	1377.2	86.4

TABLE 13

Point Source: Refinery Tanks

Sample Number	Ethane	Propane	2-me-propane	n-butane	2-me-butane	n-pentane	TNMHC	Total of 6 Compds.	Total of 6 Compds. as % TNMHC	Total of 30 Compds.	Total of 30 Compds. as % TNMHC
1024	(5) 247.4	(1) 916.4	(6) 239.5	(2) 805.7	(3) 310.6	(4) 309.8	3359.6	2829.4	84.2	3270.6	97.4
1025	(5) 187.9	(1) 696.7	(6) 180.3	(2) 589.5	(4) 217.3	(3) 225.3	2417.0	2097.0	86.8	2374.7	98.2
1026	(6) 355.0	(4) 2428.2	(5) 1197.7	(1) 5206.8	(3) 3262.0	(2) 4244.7	24482.0	16676.4	68.1	23608.4	96.4
1027	(6) 391.0	(4) 2684.7	(5) 1311.7	(1) 5776.2	(3) 3627.0	(2) 4707.1	27246.6	18497.7	67.9	26134.9	95.9

TABLE 14

	BP °C	COMPOUND	RT(DB1)	(1)
1.	-161.49	methane	-------	
2.	-103.71	ethene (ethylene)	3.51	
3.	- 88.63	ethane	3.72	x
4.	- 84.0	ethyne (acetylene)	3.66	
5.	- 47.70	propene	5.00	
6.	- 42.07	propane	5.12	x
7.	- 23.22	propyne	6.11	
8.	- 11.73	2-me-propane (isobutane)	7.19	
9.	- 6.90	2-me-propene (isobutene)	8.17	
10.	- 6.26	1-butene	8.20	
11.	- 4.41	1,3-butadiene	8.35	
12.	- 0.50	n-butane	8.52	x
13.	+ 0.88	t-2-butene	8.97	
14.	9.50	2,2-dime-propane (neopentane)	9.04	
15.	8.07	1-butyne (ethylacetylene)	9.30	
16.	3.72	c-2-butene	9.53	
17.	20.06	3-me-1-butene	10.82	
18.	27.85	2-me-butane (isopentane)	11.49	x
19.	26.99	2-butyne (dimethylacetylene)	12.06	
20.	29.97	1-pentene	12.10	
21.	31.16	2-me-1-butene	12.41	
22.	36.07	n-pentane	12.53	x
23.	34.07	2-me-1,3-butadiene (isoprene)	12.73	
24.	36.35	t-2-pentene	12.87	
25.	36.94	c-2-pentene	13.17	
26.	38.59	2-me-2-butene	13.34	
27.	49.74	2,2-dimethylbutane	13.88	x
28.	44.20	cyclopentene	14.52	
29.	53.88	4-me-1-pentene	14.73	
30.	49.26	cyclopentane	14.90	x
31.	58.0	2,3-dimebutane	15.02	x
32.	58.55	t-4-me-2-pentene	14.69	
33.	60.27	2-me-pentane	15.21	x
34.	56.30	c-4-me-2-pentene	15.13	
35.	63.28	3-me-pentane	15.71	x
36.	62.12	2-me-1-pentene	15.92	
37.	63.49	1-hexane	15.92	
38.	68.74	n-hexane	16.31	x
39.	67.87	t-2-hexene	16.50	
40.	67.29	2-me-2-pentene	16.57	
41.	70.45	t-3-me-pentene	-----	
42.	68.84	c-2-hexene	16.82	
43.	67.63	c-3-me-1-pentene	-----	
44.	71.81	me-cyclopentane	17.26	x
45.	80.50	2,4-dime-pentane	17.41	x
46.	75.50	1-me-cyclopentene	18.06	
47.	80.10	benzene	18.10	x
48.	86.1	3,3-dime-pentane	18.28	
49.	80.74	cyclohexane	18.41	x
50.	90.05	2-me-hexane (isoheptane)	18.68	x
51.	89.78	2,3-dime-pentane	18.75	x

TABLE 14 Continued

	BP °C	COMPOUND	RT(DB1)	
52.	82.95	cyclohexene	18.97	
53.	91.85	3-me-hexane	18.97	x
54.	99.2	2,2,4-trime-pentane (isooctane)	19.44	x
55.	98.4	n-heptane	19.75	x
56.	100.0	me-cyclohexane	20.51	x
57.	109.0	2,5-dime-hexane	20.79	
58.	113.4	2,3,4-trime-pentane	21.35	
59.	110.6	toluene	21.59	x
60.	113.0	2,3-dime-hexane	-----	
61.	117.6	2-me-heptane	21.85	x
62.	110.0	1-me-cyclohexene	21.92	
63.	115-118.0	3-me-heptane	22.09	x
64.	124.0	2,2,5-trime-hexane	22.42	
65.	125.7	n-octane	22.86	x
66.	123.4	t-1,2-dime-cyclohexane	22.91	
67.	129.7	c-1,2-dime-cyclohexane	23.84	
68.	131.8	ethylcyclohexane	23.86	x
69.	136.0	ethylbenzene	24.43	x
70.	138.0	p-xylene	24.70	x
71.	139.0	m-xylene	24.67	x
72.	145.2	styrene	25.18	
73.	144.0	o-xylene	25.34	x
74.	151.0	n-nonane	25.67	
75.	152.4	cumene (isopropylbenzene)	26.20	
76.	156.2	alpha-pienene	26.81	
77.	159.0	n-propylbenzene	27.01	
78.	158-159.0	m-ethyltoluene	17.17	
79.	162.0	p-ethyltoluene	27.24	
80.	165.0	1,3,5-trime-benzene (mesitylene)	27.36	
81.	163-164.0	alpha-me-styrene	27.61	
82.	165.0	o-ethyltoluene	27.69	
83.	165-167.0	beta-pienene	27.94	
84.	169.0	1,2,4-trime-benzene	28.06	
85.	169.0	ter-butylbenzene	28.06	
86.	174.0	n-decane	28.26	
87.	176.0	1,2,3,-trime-benzene	28.81	
88.	181.0	m-dimethylbenzene	29.38	
89.	183.0	n-butylbenzene	29.62	
90.	196.0	n-undecane	30.67	
91.	216.3	n-dodecane	33.22	

(1) The compounds marked with x have been identified and quantified. The rest of the compounds have also been identified, but not accurately quantified. However, the concentration levels of these compounds fall in a range less than 1 ppb to 100 ppb.

TABLE 15

SAMPLE NUMBER 1001
POINT SOURCE: Well-heads (water flood) - Glen Sand

CAS #	MOL. WT	SPECIES NAME	NMHC ppbc	DIL. SAMPLE UG/M3	ORIGINAL UG/M3	PERCENT WEIGHT
74-84-0	30.1	ethane	269.0	180.6	43333.0	3.9
74-98-6	44.1	Propane	580.8	381.2	91476.0	8.2
75-28-5	58.1	2-Me-Propane [1]	210.1	136.3	32708.1	2.9
106-97-8	58.1	n-Butane	630.0	408.7	98077.5	8.7
78-78-4	72.2	2-Me-Butane [2]	389.7	251.0	60250.4	5.4
109-66-0	72.2	n-Pentane	535.2	344.8	82745.7	7.4
75-83-2	86.2	2,2-Dime-Butane	7.3	4.7	1123.4	0.1
287-92-3	70.1	Cyclopentane	71.9	45.0	10805.0	1.0
75-83-2	86.2	2,3-Dime-Butane	26.2	16.8	4032.0	0.4
107-83-5	86.2	2-Me-Pentane	278.0	178.3	42782.2	3.8
96-14-0	86.2	3-Me-Pentane	175.8	112.7	27054.4	2.4
110-54-3	86.2	n-Hexane	475.0	304.6	73099.1	6.5
96-37-7	84.2	Me-Cyclopentane	350.6	219.5	52690.2	4.7
108-08-7	100.2	2,4-Dime-Pentane	15.0	9.6	2300.5	0.2
71-43-2	78.1	Benzene	37.3	21.7	5202.7	0.5
110-82-7	84.2	Cyclohexane	206.6	129.4	31049.0	2.8
591-76-4	100.2	2-Me-Hexane	131.9	84.3	20229.2	1.8
565-59-3	100.2	2,3-Dime-Pentane	52.0	33.2	7975.1	0.7
589-34-4	100.2	3-Me-Hexane	189.8	121.3	29109.1	2.6
540-84-1	114.2	2,2,4-trime-pentane	243.0	154.9	37175.7	3.3
142-82-5	100.2	n-heptane	469.8	300.2	72052.0	6.4
108-87-2	98.2	Me-Cyclohexane	482.6	302.2	72530.3	6.5
108-88-3	92.1	Toluene	120.2	70.6	16951.9	1.5
592-27-8	114.2	2-Me-Heptane	223.6	142.5	34207.8	3.1
589-81-1	114.2	3-Me-Heptane	133.5	85.1	20423.7	1.8
111-65-9	114.2	n-Octane	412.0	262.6	63030.5	5.6
1678-91-7	112.2	Ethylcyclohexane	162.5	101.8	24422.9	2.2
100-41-4	106.2	Ethylbenzene	91.3	54.1	12982.1	1.2
108-38-3	106.2	M+P-Xylene	295.1	174.8	41960.8	3.7
95-47-6	106.2	o-Xylene	68.8	40.8	9782.8	0.9
TOTAL (30 COMPOUNDS)			7334.6		1121563.2	100
TOTAL NMHC ppbc (ALL COMPOUNDS)			11598.3			
30 COMPOUNDS % OF TOTAL			63.2			

1 Isobutane
2 isopentane

TABLE 16

SAMPLE NUMBER 1002
POINT SOURCE: Well-heads (water flood) - Glen Sand

CAS #	MOL. WT	SPECIES NAME	NMHC ppbc	DIL. SAMPLE UG/M3	ORIGINAL UG/M3	PERCENT WEIGHT
74-84-0	30.1	ethane	867.4	582.2	16767461.6	7.8
74-98-6	44.1	Propane	3150.4	2067.5	59542560.0	27.7
75-28-5	58.1	2-Me-Propane	949.5	615.9	17738016.4	8.3
106-97-8	58.1	n-Butane	2722.9	1766.2	50867661.9	23.7
78-78-4	72.2	2-Me-Butane	888.8	572.6	16489779.4	7.7
109-66-0	72.2	n-Pentane	1130.5	728.3	20974005.0	9.8
75-83-2	86.2	2,2-Dime-Butane	10.3	6.6	190211.6	0.1
287-92-3	70.1	Cyclopentane	72.3	45.3	1303816.9	0.6
75-83-2	86.2	2,3-Dime-Butane	24.3	15.6	448751.6	0.2
107-83-5	86.2	2-Me-Pentane	258.8	165.9	4779296.6	2.2
96-14-0	86.2	3-Me-Pentane	143.9	92.3	2657421.9	1.2
110-54-3	86.2	n-Hexane	366.1	234.8	6760821.0	3.1
96-37-7	84.2	Me-Cyclopentane	196.0	122.7	3534720.0	1.6
108-08-7	100.2	2,4-Dime-Pentane	8.3	5.3	152753.9	0.1
71-43-2	78.1	Benzene	20.3	11.8	339778.5	0.2
110-82-7	84.2	Cyclohexane	85.0	53.2	1532914.3	0.7
591-76-4	100.2	2-Me-Hexane	44.6	28.5	820822.0	0.4
565-59-3	100.2	2,3-Dime-Pentane	18.7	11.9	344156.3	0.2
589-34-4	100.2	3-Me-Hexane	58.5	37.4	1076638.8	0.5
540-84-1	114.2	2,2,4-trime-pentane	73.4	46.8	1347506.0	0.6
142-82-5	100.2	n-heptane	117.5	75.1	2162479.6	1.0
108-87-2	98.2	Me-Cyclohexane	93.6	58.6	1688066.4	0.8
108-88-3	92.1	Toluene	20.9	12.3	353704.8	0.2
592-27-8	114.2	2-Me-Heptane	31.8	20.3	583796.9	0.3
589-81-1	114.2	3-Me-Heptane	14.4	9.2	264360.9	0.1
111-65-9	114.2	n-Octane	30.6	19.5	561766.8	0.3
1678-91-7	112.2	Ethylcyclohexane	7.1	4.4	128051.0	0.1
100-41-4	106.2	Ethylbenzene	9.9	5.9	168924.1	0.1
108-38-3	106.2	M+P-Xylene	37.6	22.3	641570.1	0.3
95-47-6	106.2	o-Xylene	40.2	23.8	685934.0	0.3
TOTAL (30 COMPOUNDS)			11493.6		214907748.2	100
TOTAL NMHC ppbc (ALL COMPOUNDS)			12200.1			
30 COMPOUNDS % OF TOTAL			94.2			

TABLE 17

SAMPLE NUMBER 1005
POINT SOURCE: Well-heads (water flood) Glen Sand

CAS #	MOL. WT	SPECIES NAME	NMHC ppbc	DIL. SAMPLE UG/M3	ORIGINAL UG/M3	PERCENT WEIGHT
74-84-0	30.1	ethane	117.2	78.7	18879.7	6.2
74-98-6	44.1	Propane	151.2	99.2	23814.0	7.8
75-28-5	58.1	2-Me-Propane	40.7	26.4	6336.1	2.1
106-97-8	58.1	n-Butane	94.5	61.3	14711.6	4.8
78-78-4	72.2	2-Me-Butane	26.3	16.9	4066.2	1.3
109-66-0	72.2	n-Pentane	46.3	29.8	7158.3	2.4
75-83-2	86.2	2,2-Dime-Butane	0.9	0.6	138.5	0.0
287-92-3	70.1	Cyclopentane	8.5	5.3	1277.4	0.4
75-83-2	86.2	2,3-Dime-Butane	2.0	1.3	307.8	0.1
107-83-5	86.2	2-Me-Pentane	8.4	5.4	1292.7	0.4
96-14-0	86.2	3-Me-Pentane	5.9	3.8	908.0	0.3
110-54-3	86.2	n-Hexane	22.9	14.7	3524.1	1.2
96-37-7	84.2	Me-Cyclopentane	18.2	11.4	2735.2	0.9
108-08-7	100.2	2,4-Dime-Pentane	1.8	1.2	276.1	0.1
71-43-2	78.1	Benzene	51.0	29.6	7113.6	2.3
110-82-7	84.2	Cyclohexane	15.4	9.6	2314.4	0.8
591-76-4	100.2	2-Me-Hexane	9.6	6.1	1472.3	0.5
565-59-3	100.2	2,3-Dime-Pentane	4.8	3.1	736.2	0.2
589-34-4	100.2	3-Me-Hexane	14.0	8.9	2147.1	0.7
540-84-1	114.2	2,2,4-trime-pentane	26.8	17.1	4100.0	1.3
142-82-5	100.2	n-heptane	44.4	28.4	6809.5	2.2
108-87-2	98.2	Me-Cyclohexane	64.8	40.6	9738.8	3.2
108-88-3	92.1	Toluene	77.6	45.6	10944.0	3.6
592-27-8	114.2	2-Me-Heptane	53.6	34.2	8200.1	2.7
589-81-1	114.2	3-Me-Heptane	30.7	19.6	4696.7	1.5
111-65-9	114.2	n-Octane	101.8	64.9	15574.0	5.1
1678-91-7	112.2	Ethylcyclohexane	58.5	36.6	8792.2	2.9
100-41-4	106.2	Ethylbenzene	159.3	94.4	22651.2	7.4
108-38-3	106.2	M+P-Xylene	599.6	355.2	85258.3	28.0
95-47-6	106.2	o-Xylene	198.5	117.6	28225.1	9.3
TOTAL (30 COMPOUNDS)			2055.2		304199.2	100
TOTAL NMHC ppbc (ALL COMPOUNDS)			5295.4			
30 COMPOUNDS % OF TOTAL			38.8			

TABLE 18

SAMPLE NUMBER 1006
POINT SOURCE: Well-heads (water flood) - Glen Sand

CAS #	MOL. WT	SPECIES NAME	NMHC ppbc	DIL. SAMPLE UG/M3	ORIGINAL UG/M3	PERCENT WEIGHT
74-84-0	30.1	ethane	45.3	30.4	7297.3	8.9
74-98-6	44.1	Propane	52.3	34.3	8237.3	10.0
75-28-5	58.1	2-Me-Propane	8.7	5.6	1354.4	1.6
106-97-8	58.1	n-Butane	29.2	18.9	4545.8	5.5
78-78-4	72.2	2-Me-Butane	6.5	4.2	1004.9	1.2
109-66-0	72.2	n-Pentane	7.7	5.0	1190.5	1.4
75-83-2	86.2	2,2-Dime-Butane	0.0	0.0	0.0	0.0
287-92-3	70.1	Cyclopentane	3.2	2.0	480.9	0.6
75-83-2	86.2	2,3-Dime-Butane	0.0	0.0	0.0	0.0
107-83-5	86.2	2-Me-Pentane	1.5	1.0	230.8	0.3
96-14-0	86.2	3-Me-Pentane	1.1	0.7	169.3	0.2
110-54-3	86.2	n-Hexane	2.9	1.9	446.3	0.5
96-37-7	84.2	Me-Cyclopentane	5.0	3.1	751.4	0.9
108-08-7	100.2	2,4-Dime-Pentane	0.0	0.0	0.0	0.0
71-43-2	78.1	Benzene	13.6	7.9	1897.0	2.3
110-82-7	84.2	Cyclohexane	4.5	2.8	676.3	0.8
591-76-4	100.2	2-Me-Hexane	1.6	1.0	245.4	0.3
565-59-3	100.2	2,3-Dime-Pentane	0.9	0.6	138.0	0.2
589-34-4	100.2	3-Me-Hexane	2.4	1.5	368.1	0.4
540-84-1	114.2	2,2,4-trime-pentane	4.3	2.7	657.8	0.8
142-82-5	100.2	n-heptane	9.0	5.8	1380.3	1.7
108-87-2	98.2	Me-Cyclohexane	12.4	7.8	1863.6	2.3
108-88-3	92.1	Toluene	19.6	11.5	2764.2	3.4
592-27-8	114.2	2-Me-Heptane	11.3	7.2	1728.7	2.1
589-81-1	114.2	3-Me-Heptane	6.1	3.9	933.2	1.1
111-65-9	114.2	n-Octane	21.6	13.8	3304.5	4.0
1678-91-7	112.2	Ethylcyclohexane	12.6	7.9	1893.7	2.3
100-41-4	106.2	Ethylbenzene	46.7	27.7	6640.4	8.1
108-38-3	106.2	M+P-Xylene	171.2	101.4	24343.3	29.5
95-47-6	106.2	o-Xylene	55.4	32.8	7877.4	9.6
TOTAL (30 COMPOUNDS)			556.6		82420.9	100
TOTAL NMHC ppbc (ALL COMPOUNDS)			1150.2			
30 COMPOUNDS % OF TOTAL			48.4			

TABLE 19

SAMPLE NUMBER 1012
POINT SOURCE: Well-heads (water flood) - Glen Sand

CAS #	MOL. WT	SPECIES NAME	NMHC ppbc	DIL. SAMPLE UG/M3	ORIGINAL UG/M3	PERCENT WEIGHT
74-84-0	30.1	ethane	8.9	6.0	11.9	2.4
74-98-6	44.1	Propane	106.2	69.7	139.4	28.5
75-28-5	58.1	2-Me-Propane	34.8	22.6	45.1	9.2
106-97-8	58.1	n-Butane	91.6	59.4	118.8	24.3
78-78-4	72.2	2-Me-Butane	22.3	14.4	28.7	5.9
109-66-0	72.2	n-Pentane	17.4	11.2	22.4	4.6
75-83-2	86.2	2,2-Dime-Butane	0.0	0.0	0.0	0.0
287-92-3	70.1	Cyclopentane	3.3	2.1	4.1	0.8
75-83-2	86.2	2,3-Dime-Butane	1.4	0.9	1.8	0.4
107-83-5	86.2	2-Me-Pentane	7.9	5.1	10.1	2.1
96-14-0	86.2	3-Me-Pentane	5.6	3.6	7.2	1.5
110-54-3	86.2	n-Hexane	3.5	2.2	4.5	0.9
96-37-7	84.2	Me-Cyclopentane	9.1	5.7	11.4	2.3
108-08-7	100.2	2,4-Dime-Pentane	9.1	5.8	11.6	2.4
71-43-2	78.1	Benzene	1.4	0.8	1.6	0.3
110-82-7	84.2	Cyclohexane	5.7	3.6	7.1	1.5
591-76-4	100.2	2-Me-Hexane	2.7	1.7	3.5	0.7
565-59-3	100.2	2,3-Dime-Pentane	0.9	0.6	1.2	0.2
589-34-4	100.2	3-Me-Hexane	3.5	2.2	4.5	0.9
540-84-1	114.2	2,2,4-trime-pentane	4.5	2.9	5.7	1.2
142-82-5	100.2	n-heptane	6.4	4.1	8.2	1.7
108-87-2	98.2	Me-Cyclohexane	5.8	3.6	7.3	1.5
108-88-3	92.1	Toluene	2.3	1.4	2.7	0.6
592-27-8	114.2	2-Me-Heptane	3.0	1.9	3.8	0.8
589-81-1	114.2	3-Me-Heptane	1.4	0.9	1.8	0.4
111-65-9	114.2	n-Octane	1.2	0.8	1.5	0.3
1678-91-7	112.2	Ethylcyclohexane	1.4	0.9	1.8	0.4
100-41-4	106.2	Ethylbenzene	1.4	0.8	1.7	0.3
108-38-3	106.2	M+P-Xylene	11.0	6.5	13.0	2.7
95-47-6	106.2	o-Xylene	5.7	3.4	6.8	1.4
TOTAL (30 COMPOUNDS)			379.4		489.3	100
TOTAL NMHC ppbc (ALL COMPOUNDS)			577.7			
30 COMPOUNDS % OF TOTAL			65.7			

TABLE 20

SAMPLE NUMBER 1013
POINT SOURCE: Well-heads (water flood) - Glen Sand

CAS #	MOL. WT	SPECIES NAME	NMHC ppbc	DIL. SAMPLE UG/M3	ORIGINAL UG/M3	PERCENT WEIGHT
74-84-0	30.1	ethane	379.2	254.5	7330206.9	7.5
74-98-6	44.1	Propane	1318.6	865.3	24921540.0	25.5
75-28-5	58.1	2-Me-Propane	417.1	270.6	7792023.9	8.0
106-97-8	58.1	n-Butane	1205.4	781.9	22518594.0	23.1
78-78-4	72.2	2-Me-Butane	398.2	256.5	7387747.7	7.6
109-66-0	72.2	n-Pentane	542.1	349.2	10057503.9	10.3
75-83-2	86.2	2,2-Dime-Butane	6.2	4.0	114496.3	0.1
287-92-3	70.1	Cyclopentane	34.6	21.7	623956.6	0.6
75-83-2	86.2	2,3-Dime-Butane	12.2	7.8	225299.1	0.2
107-83-5	86.2	2-Me-Pentane	121.0	77.6	2234524.3	2.3
96-14-0	86.2	3-Me-Pentane	68.7	44.1	1268692.7	1.3
110-54-3	86.2	n-Hexane	166.1	106.5	3067392.4	3.1
96-37-7	84.2	Me-Cyclopentane	102.4	64.1	1846710.9	1.9
108-08-7	100.2	2,4-Dime-Pentane	4.4	2.8	80978.0	0.1
71-43-2	78.1	Benzene	12.0	7.0	200854.3	0.2
110-82-7	84.2	Cyclohexane	46.8	29.3	844004.6	0.9
591-76-4	100.2	2-Me-Hexane	24.1	15.4	443538.4	0.5
565-59-3	100.2	2,3-Dime-Pentane	10.4	6.6	191402.4	0.2
589-34-4	100.2	3-Me-Hexane	31.4	20.1	577888.2	0.6
540-84-1	114.2	2,2,4-trime-pentane	42.8	27.3	785739.2	0.8
142-82-5	100.2	n-heptane	72.4	46.3	1332455.5	1.4
108-87-2	98.2	Me-Cyclohexane	60.4	37.8	1089307.8	1.1
108-88-3	92.1	Toluene	15.7	9.2	265701.7	0.3
592-27-8	114.2	2-Me-Heptane	21.2	13.5	389197.9	0.4
589-81-1	114.2	3-Me-Heptane	9.5	6.1	174404.7	0.2
111-65-9	114.2	n-Octane	23.6	15.0	433258.1	0.4
1678-91-7	112.2	Ethylcyclohexane	6.2	3.9	111819.2	0.1
100-41-4	106.2	Ethylbenzene	8.4	5.0	143329.5	0.1
108-38-3	106.2	M+P-Xylene	31.4	18.6	535779.3	0.5
95-47-6	106.2	o-Xylene	34.4	20.4	586968.4	0.6
TOTAL (30 COMPOUNDS)			5226.9		97575315.9	100
TOTAL NMHC ppbc (ALL COMPOUNDS)			5767.6			
30 COMPOUNDS % OF TOTAL			90.6			

TABLE 21

SAMPLE NUMBER 1014
POINT SOURCE: Well-heads (water flood) - Glen Sand

CAS #	MOL. WT	SPECIES NAME	NMHC ppbc	DIL. SAMPLE UG/M3	ORIGINAL UG/M3	PERCENT WEIGHT
74-84-0	30.1	ethane	140.0	94.0	2706300.0	7.6
74-98-6	44.1	Propane	488.6	320.6	9234540.0	25.8
75-28-5	58.1	2-Me-Propane	156.5	101.5	2923643.6	8.2
106-97-8	58.1	n-Butane	455.6	295.5	8511258.9	23.8
78-78-4	72.2	2-Me-Butane	146.4	94.3	2716138.3	7.6
109-66-0	72.2	n-Pentane	189.2	121.9	3510200.6	9.8
75-83-2	86.2	2,2-Dime-Butane	1.6	1.0	29547.4	0.1
287-92-3	70.1	Cyclopentane	13.0	8.1	234434.6	0.7
75-83-2	86.2	2,3-Dime-Butane	4.4	2.8	81255.4	0.2
107-83-5	86.2	2-Me-Pentane	42.7	27.4	788547.0	2.2
96-14-0	86.2	3-Me-Pentane	24.6	15.8	454291.7	1.3
110-54-3	86.2	n-Hexane	53.2	34.1	982452.0	2.7
96-37-7	84.2	Me-Cyclopentane	37.1	23.2	669072.0	1.9
108-08-7	100.2	2,4-Dime-Pentane	1.4	0.9	25765.7	0.1
71-43-2	78.1	Benzene	3.3	1.9	55234.9	0.2
110-82-7	84.2	Cyclohexane	17.6	11.0	317403.4	0.9
591-76-4	100.2	2-Me-Hexane	6.8	4.3	125147.8	0.4
565-59-3	100.2	2,3-Dime-Pentane	3.5	2.2	64414.3	0.2
589-34-4	100.2	3-Me-Hexane	9.4	6.0	172998.4	0.5
540-84-1	114.2	2,2,4-trime-pentane	15.0	9.6	275375.9	0.8
142-82-5	100.2	n-heptane	26.8	17.1	493229.4	1.4
108-87-2	98.2	Me-Cyclohexane	20.3	12.7	366108.4	1.0
108-88-3	92.1	Toluene	5.4	3.2	91387.8	0.3
592-27-8	114.2	2-Me-Heptane	8.2	5.2	150538.8	0.4
589-81-1	114.2	3-Me-Heptane	3.8	2.4	69761.9	0.2
111-65-9	114.2	n-Octane	10.2	6.5	187255.6	0.5
1678-91-7	112.2	Ethylcyclohexane	2.4	1.5	43284.9	0.1
100-41-4	106.2	Ethylbenzene	3.1	1.8	52895.4	0.1
108-38-3	106.2	M+P-Xylene	11.9	7.1	203050.1	0.6
95-47-6	106.2	o-Xylene	12.2	7.2	208169.0	0.6
TOTAL (30 COMPOUNDS)			1914.2		35743703.2	100
TOTAL NMHC ppbc (ALL COMPOUNDS)			2026.3			
30 COMPOUNDS % OF TOTAL			94.5			

TABLE 22

SAMPLE NUMBER 1015
POINT SOURCE: Well-heads (water flood) - Glen Sand

CAS #	MOL. WT	SPECIES NAME	NMHC ppbc	DIL. SAMPLE UG/M3	ORIGINAL UG/M3	PERCENT WEIGHT
74-84-0	30.1	ethane	154.5	103.7	2986595.4	7.6
74-98-6	44.1	Propane	536.9	352.3	10147410.0	25.9
75-28-5	58.1	2-Me-Propane	172.9	112.2	3230019.0	8.2
106-97-8	58.1	n-Butane	502.8	326.1	9393022.3	24.0
78-78-4	72.2	2-Me-Butane	159.6	102.8	2961036.0	7.6
109-66-0	72.2	n-Pentane	204.8	131.9	3799625.1	9.7
75-83-2	86.2	2,2-Dime-Butane	2.3	1.5	42474.4	0.1
287-92-3	70.1	Cyclopentane	14.3	9.0	257878.0	0.7
75-83-2	86.2	2,3-Dime-Butane	5.0	3.2	92335.7	0.2
107-83-5	86.2	2-Me-Pentane	47.1	30.2	869802.4	2.2
96-14-0	86.2	3-Me-Pentane	27.2	17.4	502306.3	1.3
110-54-3	86.2	n-Hexane	60.0	38.5	1108028.6	2.8
96-37-7	84.2	Me-Cyclopentane	40.4	25.3	728585.1	1.9
108-08-7	100.2	2,4-Dime-Pentane	1.5	1.0	27606.1	0.1
71-43-2	78.1	Benzene	3.4	2.0	56908.7	0.1
110-82-7	84.2	Cyclohexane	19.0	11.9	342651.4	0.9
591-76-4	100.2	2-Me-Hexane	8.0	5.1	147232.7	0.4
565-59-3	100.2	2,3-Dime-Pentane	3.8	2.4	69935.5	0.2
589-34-4	100.2	3-Me-Hexane	10.7	6.8	196923.7	0.5
540-84-1	114.2	2,2,4-trime-pentane	16.5	10.5	302913.5	0.8
142-82-5	100.2	n-heptane	27.5	17.6	506112.2	1.3
108-87-2	98.2	Me-Cyclohexane	22.0	13.8	396767.8	1.0
108-88-3	92.1	Toluene	5.7	3.3	96464.9	0.2
592-27-8	114.2	2-Me-Heptane	8.5	5.4	156046.3	0.4
589-81-1	114.2	3-Me-Heptane	3.8	2.4	69761.9	0.2
111-65-9	114.2	n-Octane	10.4	6.6	190927.3	0.5
1678-91-7	112.2	Ethylcyclohexane	1.8	1.1	32463.6	0.1
100-41-4	106.2	Ethylbenzene	3.1	1.8	52895.4	0.1
108-38-3	106.2	M+P-Xylene	11.8	7.0	201343.8	0.5
95-47-6	106.2	o-Xylene	11.2	6.6	191106.0	0.5
TOTAL (30 COMPOUNDS)			2096.5		39157179.3	100
TOTAL NMHC ppbc (ALL COMPOUNDS)			2219.1			
30 COMPOUNDS % OF TOTAL			94.5			

TABLE 23

SAMPLE NUMBER 1040
POINT SOURCE: Well-heads (water flood) - Glen Sand

CAS #	MOL. WT	SPECIES NAME	NMHC ppbc	DIL. SAMPLE UG/M3	ORIGINAL UG/M3	PERCENT WEIGHT
74-84-0	30.1	ethane	2066.1	1386.8	39939188.8	19.6
74-98-6	44.1	Propane	4146.6	2721.2	78370740.0	38.5
75-28-5	58.1	2-Me-Propane	919.0	596.1	17168232.9	8.4
106-97-8	58.1	n-Butane	2047.2	1327.9	38244620.6	18.8
78-78-4	72.2	2-Me-Butane	518.4	334.0	9617801.1	4.7
109-66-0	72.2	n-Pentane	519.2	334.5	9632643.4	4.7
75-83-2	86.2	2,2-Dime-Butane	4.1	2.6	75715.3	0.0
287-92-3	70.1	Cyclopentane	33.8	21.2	609529.9	0.3
75-83-2	86.2	2,3-Dime-Butane	11.6	7.4	214218.9	0.1
107-83-5	86.2	2-Me-Pentane	107.0	68.6	1975984.3	1.0
96-14-0	86.2	3-Me-Pentane	58.9	37.8	1087714.7	0.5
110-54-3	86.2	n-Hexane	104.8	67.2	1935356.6	0.9
96-37-7	84.2	Me-Cyclopentane	78.0	48.8	1406674.3	0.7
108-08-7	100.2	2,4-Dime-Pentane	2.0	1.3	36808.2	0.0
71-43-2	78.1	Benzene	5.1	3.0	85363.1	0.0
110-82-7	84.2	Cyclohexane	33.0	20.7	595131.4	0.3
591-76-4	100.2	2-Me-Hexane	11.9	7.6	219008.6	0.1
565-59-3	100.2	2,3-Dime-Pentane	5.7	3.6	104903.3	0.1
589-34-4	100.2	3-Me-Hexane	18.1	11.6	333113.9	0.2
540-84-1	114.2	2,2,4-trime-pentane	25.4	16.2	466303.2	0.2
142-82-5	100.2	n-heptane	35.8	22.9	658866.1	0.3
108-87-2	98.2	Me-Cyclohexane	26.4	16.5	476121.3	0.2
108-88-3	92.1	Toluene	5.4	3.2	91387.8	0.0
592-27-8	114.2	2-Me-Heptane	10.2	6.5	187255.6	0.1
589-81-1	114.2	3-Me-Heptane	4.5	2.9	82612.8	0.0
111-65-9	114.2	n-Octane	0.0	0.0	0.0	0.0
1678-91-7	112.2	Ethylcyclohexane	3.6	2.3	64927.3	0.0
100-41-4	106.2	Ethylbenzene	1.7	1.0	29007.2	0.0
108-38-3	106.2	M+P-Xylene	0.0	0.0	0.0	0.0
95-47-6	106.2	o-Xylene	1.0	0.6	17063.0	0.0
TOTAL (30 COMPOUNDS)			10804.5		203726293.4	100
TOTAL NMHC ppbc (ALL COMPOUNDS)			10906.9			
30 COMPOUNDS % OF TOTAL			99.1			

TABLE 24

SAMPLE NUMBER 1009
POINT SOURCE: Well-heads (Gas Wells) - Dutcher

CAS #	MOL. WT	SPECIES NAME	NMHC ppbc	DIL. SAMPLE UG/M3	ORIGINAL UG/M3	PERCENT WEIGHT
74-84-0	30.1	ethane	2407.8	1616.1	46544493.9	18.2
74-98-6	44.1	Propane	4395.5	2884.5	83074950.0	32.5
75-28-5	58.1	2-Me-Propane	867.5	562.7	16206139.3	6.3
106-97-8	58.1	n-Butane	2865.1	1858.5	53524161.0	21.0
78-78-4	72.2	2-Me-Butane	751.2	483.9	13936906.3	5.5
109-66-0	72.2	n-Pentane	888.5	572.4	16484213.6	6.5
75-83-2	86.2	2,2-Dime-Butane	7.7	4.9	142197.0	0.1
287-92-3	70.1	Cyclopentane	51.7	32.4	932328.3	0.4
75-83-2	86.2	2,3-Dime-Butane	22.8	14.6	421050.9	0.2
107-83-5	86.2	2-Me-Pentane	206.8	132.6	3819005.1	1.5
96-14-0	86.2	3-Me-Pentane	115.2	73.9	2127414.9	0.8
110-54-3	86.2	n-Hexane	255.9	164.1	4725741.9	1.8
96-37-7	84.2	Me-Cyclopentane	144.1	90.2	2598740.6	1.0
108-08-7	100.2	2,4-Dime-Pentane	7.9	5.0	145392.2	0.1
71-43-2	78.1	Benzene	7.2	4.2	120512.6	0.0
110-82-7	84.2	Cyclohexane	94.1	58.9	1697026.3	0.7
591-76-4	100.2	2-Me-Hexane	39.0	24.9	717759.2	0.3
565-59-3	100.2	2,3-Dime-Pentane	15.4	9.8	283422.9	0.1
589-34-4	100.2	3-Me-Hexane	47.4	30.3	872353.5	0.3
540-84-1	114.2	2,2,4-trime-pentane	46.1	29.4	846321.9	0.3
142-82-5	100.2	n-heptane	97.9	62.6	1801759.6	0.7
108-87-2	98.2	Me-Cyclohexane	111.4	69.8	2009087.6	0.8
108-88-3	92.1	Toluene	13.6	8.0	230162.0	0.1
592-27-8	114.2	2-Me-Heptane	33.2	21.2	609498.6	0.2
589-81-1	114.2	3-Me-Heptane	14.3	9.1	262525.0	0.1
111-65-9	114.2	n-Octane	33.9	21.6	622349.5	0.2
1678-91-7	112.2	Ethylcyclohexane	13.6	8.5	245280.9	0.1
100-41-4	106.2	Ethylbenzene	3.6	2.1	61426.9	0.0
108-38-3	106.2	M+P-Xylene	18.3	10.8	312253.6	0.1
95-47-6	106.2	o-Xylene	4.4	2.6	75077.4	0.0
TOTAL (30 COMPOUNDS)			13581.1		255449552.1	100
TOTAL NMHC ppbc (ALL COMPOUNDS)			13616.7			
30 COMPOUNDS % OF TOTAL			99.7			

TABLE 25

SAMPLE NUMBER 1010
POINT SOURCE: Well-heads (Gas Wells) - Dutcher

CAS #	MOL. WT	SPECIES NAME	NMHC ppbc	DIL. SAMPLE UG/M3	ORIGINAL UG/M3	PERCENT WEIGHT
74-84-0	30.1	ethane	2326.0	1561.2	44963241.4	18.0
74-98-6	44.1	Propane	4312.2	2829.9	81500580.0	32.6
75-28-5	58.1	2-Me-Propane	845.6	548.5	15797016.0	6.3
106-97-8	58.1	n-Butane	2821.7	1830.3	52713387.0	21.1
78-78-4	72.2	2-Me-Butane	743.8	479.2	13799615.1	5.5
109-66-0	72.2	n-Pentane	869.7	560.3	16135419.9	6.5
75-83-2	86.2	2,2-Dime-Butane	6.7	4.3	123729.9	0.0
287-92-3	70.1	Cyclopentane	51.1	32.0	921508.2	0.4
75-83-2	86.2	2,3-Dime-Butane	22.5	14.4	415510.7	0.2
107-83-5	86.2	2-Me-Pentane	204.6	131.2	3778377.4	1.5
96-14-0	86.2	3-Me-Pentane	113.7	72.9	2099714.1	0.8
110-54-3	86.2	n-Hexane	252.0	161.6	4653720.0	1.9
96-37-7	84.2	Me-Cyclopentane	142.8	89.4	2575296.0	1.0
108-08-7	100.2	2,4-Dime-Pentane	7.6	4.9	139871.0	0.1
71-43-2	78.1	Benzene	5.8	3.4	97079.6	0.0
110-82-7	84.2	Cyclohexane	91.7	57.4	1653744.0	0.7
591-76-4	100.2	2-Me-Hexane	37.2	23.8	684631.8	0.3
565-59-3	100.2	2,3-Dime-Pentane	15.2	9.7	279742.0	0.1
589-34-4	100.2	3-Me-Hexane	47.5	30.4	874193.9	0.3
540-84-1	114.2	2,2,4-trime-pentane	44.3	28.2	813276.8	0.3
142-82-5	100.2	n-heptane	92.0	58.8	1693175.5	0.7
108-87-2	98.2	Me-Cyclohexane	106.8	66.9	1926127.1	0.8
108-88-3	92.1	Toluene	11.6	6.8	196314.6	0.1
592-27-8	114.2	2-Me-Heptane	32.1	20.5	589304.4	0.2
589-81-1	114.2	3-Me-Heptane	14.3	9.1	262525.0	0.1
111-65-9	114.2	n-Octane	33.3	21.2	611334.5	0.2
1678-91-7	112.2	Ethylcyclohexane	12.8	8.0	230852.6	0.1
100-41-4	106.2	Ethylbenzene	3.1	1.8	52895.4	0.0
108-38-3	106.2	M+P-Xylene	16.5	9.8	281540.1	0.1
95-47-6	106.2	o-Xylene	3.6	2.1	61426.9	0.0
TOTAL (30 COMPOUNDS)			13287.8		249925151.1	100
TOTAL NMHC ppbc (ALL COMPOUNDS)			13294			
30 COMPOUNDS % OF TOTAL			100.0			

TABLE 26

SAMPLE NUMBER 1016
POINT SOURCE: Well-heads (Gas Wells) - Dutcher

CAS #	MOL. WT	SPECIES NAME	NMHC ppbc	DIL. SAMPLE UG/M3	ORIGINAL UG/M3	PERCENT WEIGHT
74-84-0	30.1	ethane	1376.5	923.9	26608728.2	17.6
74-98-6	44.1	Propane	2657.8	1744.2	50232420.0	33.1
75-28-5	58.1	2-Me-Propane	525.4	340.8	9815222.6	6.5
106-97-8	58.1	n-Butane	1757.0	1139.7	32823270.0	21.7
78-78-4	72.2	2-Me-Butane	452.6	291.6	8397023.1	5.5
109-66-0	72.2	n-Pentane	524.0	337.6	9721697.1	6.4
75-83-2	86.2	2,2-Dime-Butane	4.4	2.8	81255.4	0.1
287-92-3	70.1	Cyclopentane	30.6	19.2	551822.9	0.4
75-83-2	86.2	2,3-Dime-Butane	13.5	8.7	249306.4	0.2
107-83-5	86.2	2-Me-Pentane	119.6	76.7	2208670.3	1.5
96-14-0	86.2	3-Me-Pentane	66.8	42.8	1233605.1	0.8
110-54-3	86.2	n-Hexane	141.5	90.7	2613100.7	1.7
96-37-7	84.2	Me-Cyclopentane	83.9	52.5	1513076.6	1.0
108-08-7	100.2	2,4-Dime-Pentane	4.0	2.6	73616.3	0.0
71-43-2	78.1	Benzene	2.5	1.5	41844.6	0.0
110-82-7	84.2	Cyclohexane	53.5	33.5	964834.3	0.6
591-76-4	100.2	2-Me-Hexane	16.4	10.5	301826.9	0.2
565-59-3	100.2	2,3-Dime-Pentane	9.1	5.8	167477.1	0.1
589-34-4	100.2	3-Me-Hexane	24.2	15.5	445378.8	0.3
540-84-1	114.2	2,2,4-trime-pentane	25.5	16.3	468139.0	0.3
142-82-5	100.2	n-heptane	47.9	30.6	881555.5	0.6
108-87-2	98.2	Me-Cyclohexane	56.6	35.4	1020775.2	0.7
108-88-3	92.1	Toluene	5.6	3.3	94772.6	0.1
592-27-8	114.2	2-Me-Heptane	16.5	10.5	302913.5	0.2
589-81-1	114.2	3-Me-Heptane	6.8	4.3	124837.1	0.1
111-65-9	114.2	n-Octane	17.8	11.3	326779.4	0.2
1678-91-7	112.2	Ethylcyclohexane	6.2	3.9	111819.2	0.1
100-41-4	106.2	Ethylbenzene	1.9	1.1	32419.8	0.0
108-38-3	106.2	M+P-Xylene	6.6	3.9	112616.0	0.1
95-47-6	106.2	o-Xylene	1.3	0.8	22181.9	0.0
TOTAL (30 COMPOUNDS)			8056		151542985.9	100
TOTAL NMHC ppbc (ALL COMPOUNDS)			8027.4			
30 COMPOUNDS % OF TOTAL			100.4			

TABLE 27

SAMPLE NUMBER 1017
POINT SOURCE: Well-heads (Gas Wells) - Dutcher

CAS #	MOL. WT	SPECIES NAME	NMHC ppbc	DIL. SAMPLE UG/M3	ORIGINAL UG/M3	PERCENT WEIGHT
74-84-0	30.1	ethane	302.1	202.8	5839808.8	18.1
74-98-6	44.1	Propane	578.8	379.8	10939320.0	34.0
75-28-5	58.1	2-Me-Propane	114.9	74.5	2146496.1	6.7
106-97-8	58.1	n-Butane	376.3	244.1	7029821.6	21.8
78-78-4	72.2	2-Me-Butane	97.2	62.6	1803337.7	5.6
109-66-0	72.2	n-Pentane	106.2	68.4	1970313.4	6.1
75-83-2	86.2	2,2-Dime-Butane	0.8	0.5	14773.7	0.0
287-92-3	70.1	Cyclopentane	6.5	4.1	117217.3	0.4
75-83-2	86.2	2,3-Dime-Butane	2.9	1.9	53554.7	0.2
107-83-5	86.2	2-Me-Pentane	22.6	14.5	417357.4	1.3
96-14-0	86.2	3-Me-Pentane	12.9	8.3	238226.1	0.7
110-54-3	86.2	n-Hexane	14.1	9.0	260386.7	0.8
96-37-7	84.2	Me-Cyclopentane	16.4	10.3	295762.3	0.9
108-08-7	100.2	2,4-Dime-Pentane	0.6	0.4	11042.4	0.0
71-43-2	78.1	Benzene	1.0	0.6	16737.9	0.1
110-82-7	84.2	Cyclohexane	11.0	6.9	198377.1	0.6
591-76-4	100.2	2-Me-Hexane	2.0	1.3	36808.2	0.1
565-59-3	100.2	2,3-Dime-Pentane	1.8	1.2	33127.3	0.1
589-34-4	100.2	3-Me-Hexane	3.9	2.5	71775.9	0.2
540-84-1	114.2	2,2,4-trime-pentane	4.6	2.9	84448.6	0.3
142-82-5	100.2	n-heptane	11.4	7.3	209806.5	0.7
108-87-2	98.2	Me-Cyclohexane	8.3	5.2	149689.7	0.5
108-88-3	92.1	Toluene	1.5	0.9	25385.5	0.1
592-27-8	114.2	2-Me-Heptane	3.6	2.3	66090.2	0.2
589-81-1	114.2	3-Me-Heptane	1.5	1.0	27537.6	0.1
111-65-9	114.2	n-Octane	4.7	3.0	86284.4	0.3
1678-91-7	112.2	Ethylcyclohexane	1.5	0.9	27053.0	0.1
100-41-4	106.2	Ethylbenzene	0.0	0.0	0.0	0.0
108-38-3	106.2	M+P-Xylene	1.6	0.9	27300.9	0.1
95-47-6	106.2	o-Xylene	0.5	0.3	8531.5	0.0
TOTAL (30 COMPOUNDS)			1711.2		32206372.8	100

TOTAL NMHC ppbc
(ALL COMPOUNDS) 1732.3

30 COMPOUNDS % OF TOTAL 98.8

TABLE 28

SAMPLE NUMBER 1028
POINT SOURCE: Well-heads (water flood) - Redfork

CAS #	MOL. WT	SPECIES NAME	NMHC ppbc	DIL. SAMPLE UG/M3	ORIGINAL UG/M3	PERCENT WEIGHT
74-84-0	30.1	ethane	963.0	646.4	18615477.9	9.0
74-98-6	44.1	Propane	3411.1	2238.5	64469790.0	31.3
75-28-5	58.1	2-Me-Propane	952.8	618.0	17799665.1	8.6
106-97-8	58.1	n-Butane	2752.3	1785.3	51416895.9	24.9
78-78-4	72.2	2-Me-Butane	758.3	488.5	14068631.6	6.8
109-66-0	72.2	n-Pentane	937.4	603.9	17391448.3	8.4
75-83-2	86.2	2,2-Dime-Butane	6.6	4.2	121883.1	0.1
287-92-3	70.1	Cyclopentane	56.4	35.3	1017085.4	0.5
75-83-2	86.2	2,3-Dime-Butane	19.4	12.4	358262.6	0.2
107-83-5	86.2	2-Me-Pentane	194.3	124.6	3588165.9	1.7
96-14-0	86.2	3-Me-Pentane	108.3	69.4	1999991.6	1.0
110-54-3	86.2	n-Hexane	249.5	160.0	4607552.1	2.2
96-37-7	84.2	Me-Cyclopentane	144.3	90.4	2602347.4	1.3
108-08-7	100.2	2,4-Dime-Pentane	5.5	3.5	101222.4	0.0
71-43-2	78.1	Benzene	8.0	4.6	133902.9	0.1
110-82-7	84.2	Cyclohexane	60.8	38.1	1096484.6	0.5
591-76-4	100.2	2-Me-Hexane	26.7	17.1	491389.0	0.2
565-59-3	100.2	2,3-Dime-Pentane	13.2	8.4	242933.9	0.1
589-34-4	100.2	3-Me-Hexane	38.7	24.7	712238.0	0.3
540-84-1	114.2	2,2,4-trime-pentane	53.7	34.2	985845.7	0.5
142-82-5	100.2	n-heptane	82.3	52.6	1514655.9	0.7
108-87-2	98.2	Me-Cyclohexane	66.7	41.8	1202927.7	0.6
108-88-3	92.1	Toluene	4.2	2.5	71079.4	0.0
592-27-8	114.2	2-Me-Heptane	22.2	14.2	407556.3	0.2
589-81-1	114.2	3-Me-Heptane	9.8	6.2	179912.3	0.1
111-65-9	114.2	n-Octane	31.0	19.8	569110.2	0.3
1678-91-7	112.2	Ethylcyclohexane	6.7	4.2	120836.9	0.1
100-41-4	106.2	Ethylbenzene	2.9	1.7	49482.8	0.0
108-38-3	106.2	M+P-Xylene	8.6	5.1	146742.1	0.1
95-47-6	106.2	o-Xylene	1.1	0.7	18769.3	0.0
TOTAL (30 COMPOUNDS)			10995.8		206102286.1	100
TOTAL NMHC ppbc (ALL COMPOUNDS)			11155.5			
30 COMPOUNDS % OF TOTAL			98.6			

TABLE 29

SAMPLE NUMBER 1029
POINT SOURCE: Well-heads (water flood) - Redfork

CAS #	MOL. WT	SPECIES NAME	NMHC ppbc	DIL. SAMPLE UG/M3	ORIGINAL UG/M3	PERCENT WEIGHT
74-84-0	30.1	ethane	371.3	249.2	7177494.2	9.0
74-98-6	44.1	Propane	1333.9	875.4	25210710.0	31.5
75-28-5	58.1	2-Me-Propane	371.7	241.1	6943887.0	8.7
106-97-8	58.1	n-Butane	1052.8	682.9	19667808.0	24.5
78-78-4	72.2	2-Me-Butane	293.7	189.2	5448974.1	6.8
109-66-0	72.2	n-Pentane	359.3	231.5	6666041.6	8.3
75-83-2	86.2	2,2-Dime-Butane	2.6	1.7	48014.6	0.1
287-92-3	70.1	Cyclopentane	22.2	13.9	400342.1	0.5
75-83-2	86.2	2,3-Dime-Butane	7.8	5.0	144043.7	0.2
107-83-5	86.2	2-Me-Pentane	75.5	48.4	1394269.3	1.7
96-14-0	86.2	3-Me-Pentane	42.9	27.5	792240.4	1.0
110-54-3	86.2	n-Hexane	91.7	58.8	1693437.0	2.1
96-37-7	84.2	Me-Cyclopentane	59.9	37.5	1080253.7	1.3
108-08-7	100.2	2,4-Dime-Pentane	2.0	1.3	36808.2	0.0
71-43-2	78.1	Benzene	3.5	2.0	58582.5	0.1
110-82-7	84.2	Cyclohexane	26.1	16.3	470694.9	0.6
591-76-4	100.2	2-Me-Hexane	9.8	6.3	180360.0	0.2
565-59-3	100.2	2,3-Dime-Pentane	5.5	3.5	101222.4	0.1
589-34-4	100.2	3-Me-Hexane	15.3	9.8	281582.4	0.4
540-84-1	114.2	2,2,4-trime-pentane	22.7	14.5	416735.5	0.5
142-82-5	100.2	n-heptane	36.1	23.1	664387.3	0.8
108-87-2	98.2	Me-Cyclohexane	27.8	17.4	501370.2	0.6
108-88-3	92.1	Toluene	1.9	1.1	32155.0	0.0
592-27-8	114.2	2-Me-Heptane	10.8	6.9	198270.6	0.2
589-81-1	114.2	3-Me-Heptane	4.7	3.0	86284.4	0.1
111-65-9	114.2	n-Octane	15.1	9.6	277211.7	0.3
1678-91-7	112.2	Ethylcyclohexane	3.3	2.1	59516.7	0.1
100-41-4	106.2	Ethylbenzene	1.2	0.7	20475.6	0.0
108-38-3	106.2	M+P-Xylene	3.9	2.3	66545.8	0.1
95-47-6	106.2	o-Xylene	0.0	0.0	0.0	0.0
TOTAL (30 COMPOUNDS)			4275		80119719.2	100
TOTAL NMHC ppbc (ALL COMPOUNDS)			4347			
30 COMPOUNDS % OF TOTAL			98.3			

TABLE 30

SAMPLE NUMBER 1030
POINT SOURCE: Well-heads (water flood) - Redfork

CAS #	MOL. WT	SPECIES NAME	NMHC ppbc	DIL. SAMPLE UG/M3	ORIGINAL UG/M3	PERCENT WEIGHT
74-84-0	30.1	ethane	686.9	461.1	13278267.6	8.6
74-98-6	44.1	Propane	2547.8	1672.0	48153420.0	31.2
75-28-5	58.1	2-Me-Propane	715.1	463.9	13359089.6	8.7
106-97-8	58.1	n-Butane	2081.3	1350.1	38881657.3	25.2
78-78-4	72.2	2-Me-Butane	577.2	371.8	10708709.1	6.9
109-66-0	72.2	n-Pentane	708.7	456.5	13148409.9	8.5
75-83-2	86.2	2,2-Dime-Butane	5.0	3.2	92335.7	0.1
287-92-3	70.1	Cyclopentane	42.7	26.7	770027.4	0.5
75-83-2	86.2	2,3-Dime-Butane	14.8	9.5	273313.7	0.2
107-83-5	86.2	2-Me-Pentane	146.1	93.7	2698049.6	1.8
96-14-0	86.2	3-Me-Pentane	81.9	52.5	1512459.0	1.0
110-54-3	86.2	n-Hexane	189.2	121.3	3493983.4	2.3
96-37-7	84.2	Me-Cyclopentane	110.0	68.9	1983771.4	1.3
108-08-7	100.2	2,4-Dime-Pentane	4.2	2.7	77297.1	0.1
71-43-2	78.1	Benzene	5.2	3.0	87036.9	0.1
110-82-7	84.2	Cyclohexane	46.2	28.9	833184.0	0.5
591-76-4	100.2	2-Me-Hexane	17.3	11.1	318390.6	0.2
565-59-3	100.2	2,3-Dime-Pentane	10.1	6.5	185881.2	0.1
589-34-4	100.2	3-Me-Hexane	26.7	17.1	491389.0	0.3
540-84-1	114.2	2,2,4-trime-pentane	39.9	25.4	732499.9	0.5
142-82-5	100.2	n-heptane	57.0	36.4	1049032.7	0.7
108-87-2	98.2	Me-Cyclohexane	48.8	30.6	880103.0	0.6
108-88-3	92.1	Toluene	2.6	1.5	44001.6	0.0
592-27-8	114.2	2-Me-Heptane	16.4	10.5	301077.6	0.2
589-81-1	114.2	3-Me-Heptane	7.0	4.5	128508.8	0.1
111-65-9	114.2	n-Octane	22.0	14.0	403884.6	0.3
1678-91-7	112.2	Ethylcyclohexane	4.9	3.1	88373.3	0.1
100-41-4	106.2	Ethylbenzene	2.0	1.2	34126.1	0.0
108-38-3	106.2	M+P-Xylene	5.7	3.4	97259.3	0.1
95-47-6	106.2	o-Xylene	0.0	0.0	0.0	0.0
TOTAL (30 COMPOUNDS)			8222.7		154105539.3	100

TOTAL NMHC ppbc
(ALL COMPOUNDS) 8337.6

30 COMPOUNDS % OF TOTAL 98.6

TABLE 31

SAMPLE NUMBER 1031
POINT SOURCE: Well-heads (water flood) - Redfork

CAS #	MOL. WT	SPECIES NAME	NMHC ppbc	DIL. SAMPLE UG/M3	ORIGINAL UG/M3	PERCENT WEIGHT
74-84-0	30.1	ethane	389.2	261.2	7523514.0	8.9
74-98-6	44.1	Propane	1410.9	925.9	26666010.0	31.4
75-28-5	58.1	2-Me-Propane	393.4	255.2	7349274.0	8.7
106-97-8	58.1	n-Butane	1130.0	733.0	21110014.3	24.9
78-78-4	72.2	2-Me-Butane	316.2	203.7	5866413.4	6.9
109-66-0	72.2	n-Pentane	385.1	248.1	7144705.3	8.4
75-83-2	86.2	2,2-Dime-Butane	2.8	1.8	51708.0	0.1
287-92-3	70.1	Cyclopentane	23.6	14.8	425588.9	0.5
75-83-2	86.2	2,3-Dime-Butane	8.2	5.3	151430.6	0.2
107-83-5	86.2	2-Me-Pentane	79.7	51.1	1471831.3	1.7
96-14-0	86.2	3-Me-Pentane	44.7	28.7	825481.3	1.0
110-54-3	86.2	n-Hexane	97.9	62.8	1807933.3	2.1
96-37-7	84.2	Me-Cyclopentane	60.9	38.1	1098288.0	1.3
108-08-7	100.2	2,4-Dime-Pentane	2.4	1.5	44169.8	0.1
71-43-2	78.1	Benzene	4.0	2.3	66951.4	0.1
110-82-7	84.2	Cyclohexane	25.6	16.0	461677.7	0.5
591-76-4	100.2	2-Me-Hexane	11.0	7.0	202444.9	0.2
565-59-3	100.2	2,3-Dime-Pentane	5.7	3.6	104903.3	0.1
589-34-4	100.2	3-Me-Hexane	16.0	10.2	294465.3	0.3
540-84-1	114.2	2,2,4-trime-pentane	21.7	13.8	398377.1	0.5
142-82-5	100.2	n-heptane	35.8	22.9	658866.1	0.8
108-87-2	98.2	Me-Cyclohexane	27.7	17.3	499566.7	0.6
108-88-3	92.1	Toluene	2.0	1.2	33847.3	0.0
592-27-8	114.2	2-Me-Heptane	9.8	6.2	179912.3	0.2
589-81-1	114.2	3-Me-Heptane	4.3	2.7	78941.1	0.1
111-65-9	114.2	n-Octane	13.3	8.5	244166.6	0.3
1678-91-7	112.2	Ethylcyclohexane	3.0	1.9	54106.1	0.1
100-41-4	106.2	Ethylbenzene	1.4	0.8	23888.3	0.0
108-38-3	106.2	M+P-Xylene	3.9	2.3	66545.8	0.1
95-47-6	106.2	o-Xylene	0.6	0.4	10237.8	0.0
TOTAL (30 COMPOUNDS)			4530.8		84915260.0	100
TOTAL NMHC ppbc (ALL COMPOUNDS)			4601.2			
30 COMPOUNDS % OF TOTAL			98.5			

TABLE 32

SAMPLE NUMBER 1036
POINT SOURCE: Well-heads (water flood) - Redfork

CAS #	MOL. WT	SPECIES NAME	NMHC ppbc	DIL. SAMPLE UG/M3	ORIGINAL UG/M3	PERCENT WEIGHT
74-84-0	30.1	ethane	245.9	165.0	4753422.6	7.1
74-98-6	44.1	Propane	496.0	325.5	9374400.0	14.0
75-28-5	58.1	2-Me-Propane	181.1	117.5	3383206.7	5.1
106-97-8	58.1	n-Butane	671.7	435.7	12548315.6	18.8
78-78-4	72.2	2-Me-Butane	329.5	212.3	6113166.4	9.1
109-66-0	72.2	n-Pentane	454.8	293.0	8437839.4	12.6
75-83-2	86.2	2,2-Dime-Butane	4.1	2.6	75715.3	0.1
287-92-3	70.1	Cyclopentane	40.0	25.0	721337.1	1.1
75-83-2	86.2	2,3-Dime-Butane	14.2	9.1	262233.4	0.4
107-83-5	86.2	2-Me-Pentane	145.3	93.2	2683275.9	4.0
96-14-0	86.2	3-Me-Pentane	86.3	55.3	1593714.4	2.4
110-54-3	86.2	n-Hexane	214.3	137.4	3957508.7	5.9
96-37-7	84.2	Me-Cyclopentane	137.4	86.0	2477910.9	3.7
108-08-7	100.2	2,4-Dime-Pentane	5.8	3.7	106743.7	0.2
71-43-2	78.1	Benzene	8.1	4.7	135576.6	0.2
110-82-7	84.2	Cyclohexane	64.8	40.6	1168621.7	1.7
591-76-4	100.2	2-Me-Hexane	34.1	21.8	627579.2	0.9
565-59-3	100.2	2,3-Dime-Pentane	15.0	9.6	276061.2	0.4
589-34-4	100.2	3-Me-Hexane	48.3	30.9	888917.1	1.3
540-84-1	114.2	2,2,4-trime-pentane	63.0	40.2	1156578.8	1.7
142-82-5	100.2	n-heptane	102.7	65.6	1890099.2	2.8
108-87-2	98.2	Me-Cyclohexane	91.1	57.0	1642979.2	2.5
108-88-3	92.1	Toluene	6.4	3.8	108311.5	0.2
592-27-8	114.2	2-Me-Heptane	36.0	22.9	660902.1	1.0
589-81-1	114.2	3-Me-Heptane	16.3	10.4	299241.8	0.4
111-65-9	114.2	n-Octane	49.6	31.6	910576.3	1.4
1678-91-7	112.2	Ethylcyclohexane	12.7	8.0	229049.0	0.3
100-41-4	106.2	Ethylbenzene	5.4	3.2	92140.4	0.1
108-38-3	106.2	M+P-Xylene	14.8	8.8	252532.9	0.4
95-47-6	106.2	o-Xylene	1.7	1.0	29007.2	0.0
TOTAL (30 COMPOUNDS)			3596.4		66856964.5	100
TOTAL NMHC ppbc (ALL COMPOUNDS)			3889			
30 COMPOUNDS % OF TOTAL			92.5			

TABLE 33

SAMPLE NUMBER 1037
POINT SOURCE: Well-heads (water flood) - Redfork

CAS #	MOL. WT	SPECIES NAME	NMHC ppbc	DIL. SAMPLE UG/M3	ORIGINAL UG/M3	PERCENT WEIGHT
74-84-0	30.1	ethane	267.4	179.5	5169033.0	7.0
74-98-6	44.1	Propane	535.3	351.3	10117170.0	13.8
75-28-5	58.1	2-Me-Propane	197.5	128.1	3689582.1	5.0
106-97-8	58.1	n-Butane	732.0	474.8	13674805.7	18.6
78-78-4	72.2	2-Me-Butane	362.0	233.2	6716134.3	9.1
109-66-0	72.2	n-Pentane	505.0	325.3	9369192.9	12.8
75-83-2	86.2	2,2-Dime-Butane	4.6	2.9	84948.9	0.1
287-92-3	70.1	Cyclopentane	44.1	27.6	795274.2	1.1
75-83-2	86.2	2,3-Dime-Butane	15.7	10.1	289934.1	0.4
107-83-5	86.2	2-Me-Pentane	160.7	103.0	2967669.9	4.0
96-14-0	86.2	3-Me-Pentane	95.1	61.0	1756225.3	2.4
110-54-3	86.2	n-Hexane	236.4	151.6	4365632.6	5.9
96-37-7	84.2	Me-Cyclopentane	151.4	94.8	2730390.9	3.7
108-08-7	100.2	2,4-Dime-Pentane	6.5	4.2	119626.5	0.2
71-43-2	78.1	Benzene	8.2	4.8	137250.4	0.2
110-82-7	84.2	Cyclohexane	72.3	45.3	1303878.9	1.8
591-76-4	100.2	2-Me-Hexane	38.2	24.4	703035.9	1.0
565-59-3	100.2	2,3-Dime-Pentane	16.6	10.6	305507.8	0.4
589-34-4	100.2	3-Me-Hexane	53.1	33.9	977256.7	1.3
540-84-1	114.2	2,2,4-trime-pentane	70.0	44.6	1285087.5	1.8
142-82-5	100.2	n-heptane	115.7	73.9	2129352.2	2.9
108-87-2	98.2	Me-Cyclohexane	101.6	63.6	1832345.6	2.5
108-88-3	92.1	Toluene	6.9	4.1	116773.3	0.2
592-27-8	114.2	2-Me-Heptane	39.6	25.2	726992.4	1.0
589-81-1	114.2	3-Me-Heptane	17.8	11.3	326779.4	0.4
111-65-9	114.2	n-Octane	55.8	35.6	1024398.3	1.4
1678-91-7	112.2	Ethylcyclohexane	13.8	8.6	248887.9	0.3
100-41-4	106.2	Ethylbenzene	6.3	3.7	107497.1	0.1
108-38-3	106.2	M+P-Xylene	18.0	10.7	307134.6	0.4
95-47-6	106.2	o-Xylene	2.4	1.4	40951.3	0.1
TOTAL (30 COMPOUNDS)			3950		73418749.8	100
TOTAL NMHC ppbc (ALL COMPOUNDS)			4280.3			
30 COMPOUNDS % OF TOTAL			92.3			

TABLE 34

SAMPLE NUMBER 1038
POINT SOURCE: Well-heads (water flood) - Redfork

CAS #	MOL. WT	SPECIES NAME	NMHC ppbc	DIL. SAMPLE UG/M3	ORIGINAL UG/M3	PERCENT WEIGHT
74-84-0	30.1	ethane	265.6	178.3	5134237.7	7.1
74-98-6	44.1	Propane	531.2	348.6	10039680.0	13.8
75-28-5	58.1	2-Me-Propane	195.5	126.8	3652219.3	5.0
106-97-8	58.1	n-Butane	726.1	471.0	13564585.3	18.7
78-78-4	72.2	2-Me-Butane	357.2	230.1	6627080.6	9.1
109-66-0	72.2	n-Pentane	493.6	318.0	9157690.3	12.6
75-83-2	86.2	2,2-Dime-Butane	4.5	2.9	83102.1	0.1
287-92-3	70.1	Cyclopentane	43.5	27.2	784454.1	1.1
75-83-2	86.2	2,3-Dime-Butane	15.4	9.9	284394.0	0.4
107-83-5	86.2	2-Me-Pentane	157.9	101.2	2915961.9	4.0
96-14-0	86.2	3-Me-Pentane	93.7	60.1	1730371.3	2.4
110-54-3	86.2	n-Hexane	233.8	149.9	4317618.0	5.9
96-37-7	84.2	Me-Cyclopentane	149.4	93.6	2694322.3	3.7
108-08-7	100.2	2,4-Dime-Pentane	6.2	4.0	114105.3	0.2
71-43-2	78.1	Benzene	8.2	4.8	137250.4	0.2
110-82-7	84.2	Cyclohexane	71.2	44.6	1284041.1	1.8
591-76-4	100.2	2-Me-Hexane	38.0	24.3	699355.1	1.0
565-59-3	100.2	2,3-Dime-Pentane	16.4	10.5	301826.9	0.4
589-34-4	100.2	3-Me-Hexane	53.3	34.1	980937.6	1.4
540-84-1	114.2	2,2,4-trime-pentane	69.1	44.0	1268564.9	1.7
142-82-5	100.2	n-heptane	114.8	73.4	2112788.6	2.9
108-87-2	98.2	Me-Cyclohexane	100.2	62.7	1807096.8	2.5
108-88-3	92.1	Toluene	7.2	4.2	121850.4	0.2
592-27-8	114.2	2-Me-Heptane	39.8	25.4	730664.0	1.0
589-81-1	114.2	3-Me-Heptane	17.8	11.3	326779.4	0.5
111-65-9	114.2	n-Octane	55.2	35.2	1013383.3	1.4
1678-91-7	112.2	Ethylcyclohexane	14.0	8.8	252495.0	0.3
100-41-4	106.2	Ethylbenzene	6.5	3.9	110909.7	0.2
108-38-3	106.2	M+P-Xylene	18.1	10.7	308840.9	0.4
95-47-6	106.2	o-Xylene	2.5	1.5	42657.6	0.1
TOTAL (30 COMPOUNDS)			3905.9		72599264.1	100

TOTAL NMHC ppbc
(ALL COMPOUNDS) 4238.1

30 COMPOUNDS % OF TOTAL 92.2

TABLE 35

SAMPLE NUMBER 1039
POINT SOURCE: Well-heads (water flood) - Redfork

CAS #	MOL. WT	SPECIES NAME	NMHC ppbc	DIL. SAMPLE UG/M3	ORIGINAL UG/M3	PERCENT WEIGHT
74-84-0	30.1	ethane	346.4	232.5	6696159.4	6.9
74-98-6	44.1	Propane	702.6	461.1	13279140.0	13.7
75-28-5	58.1	2-Me-Propane	258.6	167.7	4831017.4	5.0
106-97-8	58.1	n-Butane	962.3	624.2	17977138.7	18.5
78-78-4	72.2	2-Me-Butane	475.6	306.4	8823738.9	9.1
109-66-0	72.2	n-Pentane	661.5	426.1	12272715.0	12.6
75-83-2	86.2	2,2-Dime-Butane	6.0	3.8	110802.9	0.1
287-92-3	70.1	Cyclopentane	58.1	36.4	1047742.2	1.1
75-83-2	86.2	2,3-Dime-Butane	20.5	13.1	378576.4	0.4
107-83-5	86.2	2-Me-Pentane	211.9	135.9	3913187.6	4.0
96-14-0	86.2	3-Me-Pentane	125.8	80.7	2323166.6	2.4
110-54-3	86.2	n-Hexane	319.7	205.0	5903945.6	6.1
96-37-7	84.2	Me-Cyclopentane	199.8	125.1	3603250.3	3.7
108-08-7	100.2	2,4-Dime-Pentane	8.3	5.3	152753.9	0.2
71-43-2	78.1	Benzene	11.2	6.5	187464.0	0.2
110-82-7	84.2	Cyclohexane	95.3	59.7	1718667.4	1.8
591-76-4	100.2	2-Me-Hexane	51.9	33.2	955171.8	1.0
565-59-3	100.2	2,3-Dime-Pentane	22.1	14.1	406730.2	0.4
589-34-4	100.2	3-Me-Hexane	72.2	46.1	1328774.7	1.4
540-84-1	114.2	2,2,4-trime-pentane	92.5	59.0	1698151.3	1.7
142-82-5	100.2	n-heptane	159.4	101.9	2933610.6	3.0
108-87-2	98.2	Me-Cyclohexane	135.6	84.9	2445532.2	2.5
108-88-3	92.1	Toluene	8.7	5.1	147236.0	0.2
592-27-8	114.2	2-Me-Heptane	80.2	51.1	1472343.1	1.5
589-81-1	114.2	3-Me-Heptane	23.0	14.7	422243.0	0.4
111-65-9	114.2	n-Octane	64.4	41.1	1182280.5	1.2
1678-91-7	112.2	Ethylcyclohexane	18.6	11.6	335457.6	0.3
100-41-4	106.2	Ethylbenzene	8.2	4.9	139916.9	0.1
108-38-3	106.2	M+P-Xylene	22.7	13.4	387330.9	0.4
95-47-6	106.2	o-Xylene	2.7	1.6	46070.2	0.0
TOTAL (30 COMPOUNDS)			5225.8		97120315.3	100

TOTAL NMHC ppbc
(ALL COMPOUNDS) 5653

30 COMPOUNDS % OF TOTAL 92.4

TABLE 36

SAMPLE NUMBER 1003
POINT SOURCE: Gathering Tanks

CAS #	MOL. WT	SPECIES NAME	NMHC ppbc	DIL. SAMPLE UG/M3	ORIGINAL UG/M3	PERCENT WEIGHT
74-84-0	30.1	ethane	684.3	459.3	13228007.8	13.3
74-98-6	44.1	Propane	1738.8	1141.1	32863320.0	33.1
75-28-5	58.1	2-Me-Propane	473.6	307.2	8847524.6	8.9
106-97-8	58.1	n-Butane	1082.8	702.4	20228250.9	20.4
78-78-4	72.2	2-Me-Butane	343.5	221.3	6372906.4	6.4
109-66-0	72.2	n-Pentane	386.4	248.9	7168824.0	7.2
75-83-2	86.2	2,2-Dime-Butane	6.6	4.2	121883.1	0.1
287-92-3	70.1	Cyclopentane	25.9	16.2	467065.8	0.5
75-83-2	86.2	2,3-Dime-Butane	9.0	5.8	166204.3	0.2
107-83-5	86.2	2-Me-Pentane	87.2	55.9	1610334.9	1.6
96-14-0	86.2	3-Me-Pentane	48.4	31.0	893809.7	0.9
110-54-3	86.2	n-Hexane	107.8	69.1	1990758.0	2.0
96-37-7	84.2	Me-Cyclopentane	63.5	39.8	1145177.1	1.2
108-08-7	100.2	2,4-Dime-Pentane	2.7	1.7	49691.0	0.1
71-43-2	78.1	Benzene	8.7	5.1	145619.4	0.1
110-82-7	84.2	Cyclohexane	28.1	17.6	506763.4	0.5
591-76-4	100.2	2-Me-Hexane	14.2	9.1	261338.0	0.3
565-59-3	100.2	2,3-Dime-Pentane	6.1	3.9	112264.9	0.1
589-34-4	100.2	3-Me-Hexane	18.8	12.0	345996.7	0.3
540-84-1	114.2	2,2,4-trime-pentane	24.7	15.7	453452.3	0.5
142-82-5	100.2	n-heptane	36.5	23.3	671749.0	0.7
108-87-2	98.2	Me-Cyclohexane	32.6	20.4	587937.7	0.6
108-88-3	92.1	Toluene	7.8	4.6	132004.7	0.1
592-27-8	114.2	2-Me-Heptane	11.8	7.5	216629.0	0.2
589-81-1	114.2	3-Me-Heptane	5.6	3.6	102807.0	0.1
111-65-9	114.2	n-Octane	14.2	9.1	260689.2	0.3
1678-91-7	112.2	Ethylcyclohexane	4.5	2.8	81159.1	0.1
100-41-4	106.2	Ethylbenzene	2.6	1.5	44363.9	0.0
108-38-3	106.2	M+P-Xylene	9.5	5.6	162098.8	0.2
95-47-6	106.2	o-Xylene	3.7	2.2	63133.2	0.1
TOTAL (30 COMPOUNDS)			5289.9		99301763.9	100
TOTAL NMHC ppbc (ALL COMPOUNDS)			5707.8			
30 COMPOUNDS % OF TOTAL			92.7			

TABLE 37

SAMPLE NUMBER 1004
POINT SOURCE: Gathering Tanks

CAS #	MOL. WT	SPECIES NAME	NMHC ppbc	DIL. SAMPLE UG/M3	ORIGINAL UG/M3	PERCENT WEIGHT
74-84-0	30.1	ethane	901.7	605.2	17430505.1	19.8
74-98-6	44.1	Propane	1798.4	1180.2	33989760.0	38.7
75-28-5	58.1	2-Me-Propane	399.3	259.0	7459494.4	8.5
106-97-8	58.1	n-Butane	880.6	571.2	16450866.0	18.7
78-78-4	72.2	2-Me-Butane	225.8	145.5	4189235.1	4.8
109-66-0	72.2	n-Pentane	219.6	141.5	4074207.4	4.6
75-83-2	86.2	2,2-Dime-Butane	1.8	1.2	33240.9	0.0
287-92-3	70.1	Cyclopentane	14.6	9.1	263288.1	0.3
75-83-2	86.2	2,3-Dime-Butane	5.0	3.2	92335.7	0.1
107-83-5	86.2	2-Me-Pentane	44.0	28.2	812554.3	0.9
96-14-0	86.2	3-Me-Pentane	24.5	15.7	452445.0	0.5
110-54-3	86.2	n-Hexane	35.4	22.7	653736.9	0.7
96-37-7	84.2	Me-Cyclopentane	31.6	19.8	569883.4	0.6
108-08-7	100.2	2,4-Dime-Pentane	0.8	0.5	14723.3	0.0
71-43-2	78.1	Benzene	2.3	1.3	38497.1	0.0
110-82-7	84.2	Cyclohexane	13.5	8.5	243462.9	0.3
591-76-4	100.2	2-Me-Hexane	5.9	3.8	108584.1	0.1
565-59-3	100.2	2,3-Dime-Pentane	2.4	1.5	44169.8	0.1
589-34-4	100.2	3-Me-Hexane	8.1	5.2	149073.1	0.2
540-84-1	114.2	2,2,4-trime-pentane	9.0	5.7	165225.5	0.2
142-82-5	100.2	n-heptane	14.7	9.4	270540.0	0.3
108-87-2	98.2	Me-Cyclohexane	9.9	6.2	178545.5	0.2
108-88-3	92.1	Toluene	2.2	1.3	37232.1	0.0
592-27-8	114.2	2-Me-Heptane	3.5	2.2	64254.4	0.1
589-81-1	114.2	3-Me-Heptane	1.7	1.1	31209.3	0.0
111-65-9	114.2	n-Octane	4.5	2.9	82612.8	0.1
1678-91-7	112.2	Ethylcyclohexane	1.2	0.8	21642.4	0.0
100-41-4	106.2	Ethylbenzene	0.0	0.0	0.0	0.0
108-38-3	106.2	M+P-Xylene	0.0	0.0	0.0	0.0
95-47-6	106.2	o-Xylene	0.0	0.0	0.0	0.0
TOTAL (30 COMPOUNDS)			4662		87921324.4	100

TOTAL NMHC ppbc (ALL COMPOUNDS)	4664.9
30 COMPOUNDS % OF TOTAL	99.9

TABLE 38

SAMPLE NUMBER 1007
POINT SOURCE: Gathering Tanks

CAS #	MOL. WT	SPECIES NAME	NMHC ppbc	DIL. SAMPLE UG/M3	ORIGINAL UG/M3	PERCENT WEIGHT
74-84-0	30.1	ethane	362.7	243.4	7011250.1	12.8
74-98-6	44.1	Propane	926.9	608.3	17518410.0	32.0
75-28-5	58.1	2-Me-Propane	274.4	178.0	5126184.0	9.4
106-97-8	58.1	n-Butane	632.2	410.1	11810399.1	21.6
78-78-4	72.2	2-Me-Butane	202.6	130.5	3758808.9	6.9
109-66-0	72.2	n-Pentane	218.2	140.6	4048233.4	7.4
75-83-2	86.2	2,2-Dime-Butane	2.6	1.7	48014.6	0.1
287-92-3	70.1	Cyclopentane	14.9	9.3	268698.1	0.5
75-83-2	86.2	2,3-Dime-Butane	5.3	3.4	97875.9	0.2
107-83-5	86.2	2-Me-Pentane	49.0	31.4	904890.0	1.7
96-14-0	86.2	3-Me-Pentane	27.3	17.5	504153.0	0.9
110-54-3	86.2	n-Hexane	50.3	32.3	928897.3	1.7
96-37-7	84.2	Me-Cyclopentane	37.1	23.2	669072.0	1.2
108-08-7	100.2	2,4-Dime-Pentane	1.3	0.8	23925.3	0.0
71-43-2	78.1	Benzene	4.2	2.4	70299.0	0.1
110-82-7	84.2	Cyclohexane	15.9	10.0	286745.1	0.5
591-76-4	100.2	2-Me-Hexane	5.7	3.6	104903.3	0.2
565-59-3	100.2	2,3-Dime-Pentane	3.6	2.3	66254.7	0.1
589-34-4	100.2	3-Me-Hexane	8.9	5.7	163796.3	0.3
540-84-1	114.2	2,2,4-trime-pentane	13.1	8.4	240494.9	0.4
142-82-5	100.2	n-heptane	19.0	12.1	349677.6	0.6
108-87-2	98.2	Me-Cyclohexane	14.9	9.3	268720.0	0.5
108-88-3	92.1	Toluene	4.4	2.6	74464.2	0.1
592-27-8	114.2	2-Me-Heptane	5.8	3.7	106478.7	0.2
589-81-1	114.2	3-Me-Heptane	2.8	1.8	51403.5	0.1
111-65-9	114.2	n-Octane	5.5	3.5	100971.2	0.2
1678-91-7	112.2	Ethylcyclohexane	2.1	1.3	37874.3	0.1
100-41-4	106.2	Ethylbenzene	1.6	0.9	27300.9	0.0
108-38-3	106.2	M+P-Xylene	5.9	3.5	100671.9	0.2
95-47-6	106.2	o-Xylene	1.1	0.7	18769.3	0.0
TOTAL (30 COMPOUNDS)			2919.3		54787636.4	100
TOTAL NMHC ppbc (ALL COMPOUNDS)			3059.1			
30 COMPOUNDS % OF TOTAL			95.4			

TABLE 39

SAMPLE NUMBER 1008
POINT SOURCE: Gathering Tanks

CAS #	MOL. WT	SPECIES NAME	NMHC ppbc	DIL. SAMPLE UG/M3	ORIGINAL UG/M3	PERCENT WEIGHT
74-84-0	30.1	ethane	175.6	117.9	3394473.4	13.2
74-98-6	44.1	Propane	440.4	289.0	8323560.0	32.4
75-28-5	58.1	2-Me-Propane	128.5	83.4	2400563.6	9.3
106-97-8	58.1	n-Butane	296.9	192.6	5546516.1	21.6
78-78-4	72.2	2-Me-Butane	94.0	60.6	1743968.6	6.8
109-66-0	72.2	n-Pentane	92.7	59.7	1719849.9	6.7
75-83-2	86.2	2,2-Dime-Butane	1.2	0.8	22160.6	0.1
287-92-3	70.1	Cyclopentane	7.1	4.4	128037.3	0.5
75-83-2	86.2	2,3-Dime-Butane	2.6	1.7	48014.6	0.2
107-83-5	86.2	2-Me-Pentane	22.2	14.2	409970.6	1.6
96-14-0	86.2	3-Me-Pentane	12.6	8.1	232686.0	0.9
110-54-3	86.2	n-Hexane	19.4	12.4	358262.6	1.4
96-37-7	84.2	Me-Cyclopentane	17.2	10.8	310189.7	1.2
108-08-7	100.2	2,4-Dime-Pentane	0.6	0.4	11042.4	0.0
71-43-2	78.1	Benzene	2.4	1.4	40170.9	0.2
110-82-7	84.2	Cyclohexane	7.7	4.8	138864.0	0.5
591-76-4	100.2	2-Me-Hexane	3.8	2.4	69935.5	0.3
565-59-3	100.2	2,3-Dime-Pentane	1.6	1.0	29446.5	0.1
589-34-4	100.2	3-Me-Hexane	5.1	3.3	93860.8	0.4
540-84-1	114.2	2,2,4-trime-pentane	5.7	3.6	104642.8	0.4
142-82-5	100.2	n-heptane	9.5	6.1	174838.8	0.7
108-87-2	98.2	Me-Cyclohexane	6.4	4.0	115423.3	0.4
108-88-3	92.1	Toluene	2.5	1.5	42309.2	0.2
592-27-8	114.2	2-Me-Heptane	3.0	1.9	55075.2	0.2
589-81-1	114.2	3-Me-Heptane	1.4	0.9	25701.8	0.1
111-65-9	114.2	n-Octane	3.5	2.2	64254.4	0.2
1678-91-7	112.2	Ethylcyclohexane	1.2	0.8	21642.4	0.1
100-41-4	106.2	Ethylbenzene	1.0	0.6	17063.0	0.1
108-38-3	106.2	M+P-Xylene	4.1	2.4	69958.4	0.3
95-47-6	106.2	o-Xylene	1.0	0.6	17063.0	0.1
TOTAL (30 COMPOUNDS)			1370.9		25729545.5	100
TOTAL NMHC ppbc (ALL COMPOUNDS)			1447.3			
30 COMPOUNDS % OF TOTAL			94.7			

TABLE 40

SAMPLE NUMBER 1011
POINT SOURCE: Gathering Tanks

CAS #	MOL. WT	SPECIES NAME	NMHC ppbc	DIL. SAMPLE UG/M3	ORIGINAL UG/M3	PERCENT WEIGHT
74-84-0	30.1	ethane	48.9	32.8	7877.3	2.9
74-98-6	44.1	Propane	133.1	87.3	20963.3	7.8
75-28-5	58.1	2-Me-Propane	40.4	26.2	6289.4	2.3
106-97-8	58.1	n-Butane	196.9	127.7	30653.1	11.4
78-78-4	72.2	2-Me-Butane	82.6	53.2	12770.6	4.8
109-66-0	72.2	n-Pentane	158.5	102.1	24505.2	9.1
75-83-2	86.2	2,2-Dime-Butane	1.4	0.9	215.5	0.1
287-92-3	70.1	Cyclopentane	14.5	9.1	2179.0	0.8
75-83-2	86.2	2,3-Dime-Butane	5.6	3.6	861.8	0.3
107-83-5	86.2	2-Me-Pentane	58.4	37.4	8987.3	3.4
96-14-0	86.2	3-Me-Pentane	36.3	23.3	5586.3	2.1
110-54-3	86.2	n-Hexane	115.1	73.8	17713.1	6.6
96-37-7	84.2	Me-Cyclopentane	71.3	44.6	10715.4	4.0
108-08-7	100.2	2,4-Dime-Pentane	3.9	2.5	598.1	0.2
71-43-2	78.1	Benzene	6.4	3.7	892.7	0.3
110-82-7	84.2	Cyclohexane	61.1	38.3	9182.5	3.4
591-76-4	100.2	2-Me-Hexane	31.1	19.9	4769.7	1.8
565-59-3	100.2	2,3-Dime-Pentane	10.7	6.8	1641.0	0.6
589-34-4	100.2	3-Me-Hexane	39.9	25.5	6119.4	2.3
540-84-1	114.2	2,2,4-trime-pentane	39.0	24.9	5966.5	2.2
142-82-5	100.2	n-heptane	119.4	76.3	18312.1	6.8
108-87-2	98.2	Me-Cyclohexane	130.0	81.4	19537.8	7.3
108-88-3	92.1	Toluene	25.1	14.7	3539.9	1.3
592-27-8	114.2	2-Me-Heptane	63.8	40.7	9760.5	3.6
589-81-1	114.2	3-Me-Heptane	29.7	18.9	4543.7	1.7
111-65-9	114.2	n-Octane	94.9	60.5	14518.4	5.4
1678-91-7	112.2	Ethylcyclohexane	40.7	25.5	6117.0	2.3
100-41-4	106.2	Ethylbenzene	12.4	7.3	1763.2	0.7
108-38-3	106.2	M+P-Xylene	66.2	39.2	9413.1	3.5
95-47-6	106.2	o-Xylene	14.2	8.4	2019.1	0.8
TOTAL (30 COMPOUNDS)			1751.5		268011.9	100
TOTAL NMHC ppbc (ALL COMPOUNDS)			2920.6			
30 COMPOUNDS % OF TOTAL			60.0			

TABLE 41

SAMPLE NUMBER 1018
POINT SOURCE: Gathering Tanks

CAS #	MOL. WT	SPECIES NAME	NMHC ppbc	DIL. SAMPLE UG/M3	ORIGINAL UG/M3	PERCENT WEIGHT
74-84-0	30.1	ethane	123.2	82.7	2381544.0	4.4
74-98-6	44.1	Propane	711.4	466.9	13445460.0	24.6
75-28-5	58.1	2-Me-Propane	212.0	137.5	3960462.9	7.3
106-97-8	58.1	n-Butane	826.7	536.2	15443937.0	28.3
78-78-4	72.2	2-Me-Butane	260.2	167.6	4827453.4	8.8
109-66-0	72.2	n-Pentane	310.4	200.0	5758806.9	10.5
75-83-2	86.2	2,2-Dime-Butane	4.1	2.6	75715.3	0.1
287-92-3	70.1	Cyclopentane	19.6	12.3	353455.2	0.6
75-83-2	86.2	2,3-Dime-Butane	8.5	5.5	156970.7	0.3
107-83-5	86.2	2-Me-Pentane	74.2	47.6	1370262.0	2.5
96-14-0	86.2	3-Me-Pentane	41.8	26.8	771926.6	1.4
110-54-3	86.2	n-Hexane	83.0	53.2	1532772.9	2.8
96-37-7	84.2	Me-Cyclopentane	54.8	34.3	988278.9	1.8
108-08-7	100.2	2,4-Dime-Pentane	2.2	1.4	40489.0	0.1
71-43-2	78.1	Benzene	2.1	1.2	35149.5	0.1
110-82-7	84.2	Cyclohexane	35.3	22.1	636610.3	1.2
591-76-4	100.2	2-Me-Hexane	9.0	5.8	165636.7	0.3
565-59-3	100.2	2,3-Dime-Pentane	5.6	3.6	103062.9	0.2
589-34-4	100.2	3-Me-Hexane	14.8	9.5	272380.4	0.5
540-84-1	114.2	2,2,4-trime-pentane	16.4	10.5	301077.6	0.6
142-82-5	100.2	n-heptane	31.5	20.1	579728.6	1.1
108-87-2	98.2	Me-Cyclohexane	33.8	21.2	609579.6	1.1
108-88-3	92.1	Toluene	3.9	2.3	66002.3	0.1
592-27-8	114.2	2-Me-Heptane	10.9	6.9	200106.5	0.4
589-81-1	114.2	3-Me-Heptane	4.6	2.9	84448.6	0.2
111-65-9	114.2	n-Octane	13.9	8.9	255181.7	0.5
1678-91-7	112.2	Ethylcyclohexane	4.4	2.8	79355.6	0.1
100-41-4	106.2	Ethylbenzene	0.9	0.5	15356.7	0.0
108-38-3	106.2	M+P-Xylene	4.7	2.8	80196.3	0.1
95-47-6	106.2	o-Xylene	1.0	0.6	17063.0	0.0
TOTAL (30 COMPOUNDS)			2924.9		54608470.8	100
TOTAL NMHC ppbc (ALL COMPOUNDS)			3015.4			
30 COMPOUNDS % OF TOTAL			97.0			

TABLE 42

SAMPLE NUMBER 1019
POINT SOURCE: Gathering Tanks

CAS #	MOL. WT	SPECIES NAME	NMHC ppbc	DIL. SAMPLE UG/M3	ORIGINAL UG/M3	PERCENT WEIGHT
74-84-0	30.1	ethane	188.5	126.5	3643839.6	4.2
74-98-6	44.1	Propane	1107.9	727.1	20939310.0	24.0
75-28-5	58.1	2-Me-Propane	332.7	215.8	6215311.3	7.1
106-97-8	58.1	n-Butane	1304.2	846.0	24364319.1	28.0
78-78-4	72.2	2-Me-Butane	414.4	267.0	7688304.0	8.8
109-66-0	72.2	n-Pentane	501.5	323.1	9304257.9	10.7
75-83-2	86.2	2,2-Dime-Butane	3.8	2.4	70175.1	0.1
287-92-3	70.1	Cyclopentane	31.6	19.8	569856.3	0.7
75-83-2	86.2	2,3-Dime-Butane	13.6	8.7	251153.1	0.3
107-83-5	86.2	2-Me-Pentane	122.4	78.5	2260378.3	2.6
96-14-0	86.2	3-Me-Pentane	68.7	44.1	1268692.7	1.5
110-54-3	86.2	n-Hexane	147.8	94.8	2729443.7	3.1
96-37-7	84.2	Me-Cyclopentane	90.6	56.7	1633906.3	1.9
108-08-7	100.2	2,4-Dime-Pentane	4.4	2.8	80978.0	0.1
71-43-2	78.1	Benzene	2.8	1.6	46866.0	0.1
110-82-7	84.2	Cyclohexane	58.1	36.4	1047792.0	1.2
591-76-4	100.2	2-Me-Hexane	18.3	11.7	336794.7	0.4
565-59-3	100.2	2,3-Dime-Pentane	9.4	6.0	172998.4	0.2
589-34-4	100.2	3-Me-Hexane	26.2	16.7	482186.9	0.6
540-84-1	114.2	2,2,4-trime-pentane	28.4	18.1	521378.4	0.6
142-82-5	100.2	n-heptane	52.5	33.5	966214.3	1.1
108-87-2	98.2	Me-Cyclohexane	62.6	39.2	1128984.6	1.3
108-88-3	92.1	Toluene	6.6	3.9	111696.2	0.1
592-27-8	114.2	2-Me-Heptane	18.5	11.8	339630.3	0.4
589-81-1	114.2	3-Me-Heptane	7.9	5.0	145031.3	0.2
111-65-9	114.2	n-Octane	21.4	13.6	392869.6	0.5
1678-91-7	112.2	Ethylcyclohexane	7.8	4.9	140675.8	0.2
100-41-4	106.2	Ethylbenzene	2.0	1.2	34126.1	0.0
108-38-3	106.2	M+P-Xylene	7.6	4.5	129679.1	0.1
95-47-6	106.2	o-Xylene	3.1	1.8	52895.4	0.1
TOTAL (30 COMPOUNDS)			4665.3		87069744.5	100
TOTAL NMHC ppbc (ALL COMPOUNDS)			4823			
30 COMPOUNDS % OF TOTAL			96.7			

TABLE 43

SAMPLE NUMBER 1020
POINT SOURCE: Pipeline Tanks

CAS #	MOL. WT	SPECIES NAME	NMHC ppbc	DIL. SAMPLE UG/M3	ORIGINAL UG/M3	PERCENT WEIGHT
74-84-0	30.1	ethane	1086.9	729.5	21010553.4	6.2
74-98-6	44.1	Propane	6196.0	4066.1	117104400.0	34.6
75-28-5	58.1	2-Me-Propane	601.4	390.1	11235011.1	3.3
106-97-8	58.1	n-Butane	2716.2	1761.9	50742496.3	15.0
78-78-4	72.2	2-Me-Butane	2930.8	1888.0	54374713.7	16.1
109-66-0	72.2	n-Pentane	2613.7	1683.7	48491602.7	14.3
75-83-2	86.2	2,2-Dime-Butane	39.5	25.3	729452.1	0.2
287-92-3	70.1	Cyclopentane	91.5	57.3	1650058.7	0.5
75-83-2	86.2	2,3-Dime-Butane	53.7	34.4	991685.6	0.3
107-83-5	86.2	2-Me-Pentane	381.1	244.4	7037828.1	2.1
96-14-0	86.2	3-Me-Pentane	195.0	125.0	3601092.9	1.1
110-54-3	86.2	n-Hexane	401.3	257.3	7410864.4	2.2
96-37-7	84.2	Me-Cyclopentane	184.5	115.5	3327325.7	1.0
108-08-7	100.2	2,4-Dime-Pentane	10.3	6.6	189562.0	0.1
71-43-2	78.1	Benzene	11.5	6.7	192485.4	0.1
110-82-7	84.2	Cyclohexane	139.8	87.5	2521193.1	0.7
591-76-4	100.2	2-Me-Hexane	41.8	26.7	769290.6	0.2
565-59-3	100.2	2,3-Dime-Pentane	14.7	9.4	270540.0	0.1
589-34-4	100.2	3-Me-Hexane	49.2	31.4	905480.8	0.3
540-84-1	114.2	2,2,4-trime-pentane	40.0	25.5	734335.7	0.2
142-82-5	100.2	n-heptane	78.6	50.2	1446560.8	0.4
108-87-2	98.2	Me-Cyclohexane	109.7	68.7	1978428.3	0.6
108-88-3	92.1	Toluene	17.5	10.3	296164.3	0.1
592-27-8	114.2	2-Me-Heptane	21.9	14.0	402048.8	0.1
589-81-1	114.2	3-Me-Heptane	10.0	6.4	183583.9	0.1
111-65-9	114.2	n-Octane	23.5	15.0	431422.2	0.1
1678-91-7	112.2	Ethylcyclohexane	6.8	4.3	122640.4	0.0
100-41-4	106.2	Ethylbenzene	1.5	0.9	25594.6	0.0
108-38-3	106.2	M+P-Xylene	5.3	3.1	90434.1	0.0
95-47-6	106.2	o-Xylene	1.8	1.1	30713.5	0.0
TOTAL (30 COMPOUNDS)			18075.5		338297563.4	100
TOTAL NMHC ppbc (ALL COMPOUNDS)			18249.2			
30 COMPOUNDS % OF TOTAL			99.0			

TABLE 44

SAMPLE NUMBER 1021
POINT SOURCE: Pipeline Tanks

CAS #	MOL. WT	SPECIES NAME	NMHC ppbc	DIL. SAMPLE UG/M3	ORIGINAL UG/M3	PERCENT WEIGHT
74-84-0	30.1	ethane	902.1	605.5	145318.6	6.3
74-98-6	44.1	Propane	5130.7	3367.0	808085.3	34.9
75-28-5	58.1	2-Me-Propane	492.7	319.6	76702.8	3.3
106-97-8	58.1	n-Butane	2229.5	1446.2	347085.4	15.0
78-78-4	72.2	2-Me-Butane	2399.5	1545.7	370979.8	16.0
109-66-0	72.2	n-Pentane	2135.1	1375.4	330101.7	14.3
75-83-2	86.2	2,2-Dime-Butane	32.0	20.5	4924.6	0.2
287-92-3	70.1	Cyclopentane	74.3	46.5	11165.7	0.5
75-83-2	86.2	2,3-Dime-Butane	43.6	28.0	6709.7	0.3
107-83-5	86.2	2-Me-Pentane	307.3	197.0	47291.3	2.0
96-14-0	86.2	3-Me-Pentane	157.2	100.8	24192.0	1.0
110-54-3	86.2	n-Hexane	321.2	206.0	49430.4	2.1
96-37-7	84.2	Me-Cyclopentane	147.6	92.4	22182.2	1.0
108-08-7	100.2	2,4-Dime-Pentane	8.2	5.2	1257.6	0.1
71-43-2	78.1	Benzene	8.6	5.0	1199.5	0.1
110-82-7	84.2	Cyclohexane	113.3	70.9	17027.4	0.7
591-76-4	100.2	2-Me-Hexane	30.4	19.4	4662.4	0.2
565-59-3	100.2	2,3-Dime-Pentane	12.1	7.7	1855.7	0.1
589-34-4	100.2	3-Me-Hexane	38.4	24.5	5889.3	0.3
540-84-1	114.2	2,2,4-trime-pentane	32.6	20.8	4987.4	0.2
142-82-5	100.2	n-heptane	61.3	39.2	9401.4	0.4
108-87-2	98.2	Me-Cyclohexane	87.5	54.8	13150.4	0.6
108-88-3	92.1	Toluene	13.0	7.6	1833.4	0.1
592-27-8	114.2	2-Me-Heptane	16.1	10.3	2463.1	0.1
589-81-1	114.2	3-Me-Heptane	7.0	4.5	1070.9	0.0
111-65-9	114.2	n-Octane	18.0	11.5	2753.8	0.1
1678-91-7	112.2	Ethylcyclohexane	5.3	3.3	796.6	0.0
100-41-4	106.2	Ethylbenzene	1.2	0.7	170.6	0.0
108-38-3	106.2	M+P-Xylene	6.1	3.6	867.4	0.0
95-47-6	106.2	o-Xylene	1.3	0.8	184.8	0.0
TOTAL (30 COMPOUNDS)			14833.2		2313741.2	100

TOTAL NMHC ppbc
(ALL COMPOUNDS) 14935.8

30 COMPOUNDS % OF TOTAL 99.3

TABLE 45

SAMPLE NUMBER 1022
POINT SOURCE: Pipeline Tanks

CAS #	MOL. WT	SPECIES NAME	NMHC ppbc	DIL. SAMPLE UG/M3	ORIGINAL UG/M3	PERCENT WEIGHT
74-84-0	30.1	ethane	1208.2	811.0	194628.1	2.0
74-98-6	44.1	Propane	7053.9	4629.1	1110989.3	11.5
75-28-5	58.1	2-Me-Propane	1030.2	668.3	160380.1	1.7
106-97-8	58.1	n-Butane	7827.3	5077.3	1218542.9	12.7
78-78-4	72.2	2-Me-Butane	18418.5	11865.1	2847631.7	29.6
109-66-0	72.2	n-Pentane	15485.7	9975.8	2394199.8	24.9
75-83-2	86.2	2,2-Dime-Butane	255.6	163.9	39335.0	0.4
287-92-3	70.1	Cyclopentane	465.4	291.4	69939.6	0.7
75-83-2	86.2	2,3-Dime-Butane	618.1	396.3	95121.2	1.0
107-83-5	86.2	2-Me-Pentane	2033.2	1303.7	312895.0	3.3
96-14-0	86.2	3-Me-Pentane	1014.2	650.3	156078.1	1.6
110-54-3	86.2	n-Hexane	2196.2	1408.2	337979.5	3.5
96-37-7	84.2	Me-Cyclopentane	841.6	527.0	126480.5	1.3
108-08-7	100.2	2,4-Dime-Pentane	54.4	34.8	8343.2	0.1
71-43-2	78.1	Benzene	68.2	39.6	9512.7	0.1
110-82-7	84.2	Cyclohexane	755.4	473.0	113525.8	1.2
591-76-4	100.2	2-Me-Hexane	246.8	157.7	37851.1	0.4
565-59-3	100.2	2,3-Dime-Pentane	70.4	45.0	10797.1	0.1
589-34-4	100.2	3-Me-Hexane	268.1	171.3	41117.8	0.4
540-84-1	114.2	2,2,4-trime-pentane	182.6	116.4	27935.4	0.3
142-82-5	100.2	n-heptane	491.7	314.2	75410.7	0.8
108-87-2	98.2	Me-Cyclohexane	700.3	438.5	105248.7	1.1
108-88-3	92.1	Toluene	117.0	68.8	16500.6	0.2
592-27-8	114.2	2-Me-Heptane	174.2	111.0	26650.3	0.3
589-81-1	114.2	3-Me-Heptane	86.0	54.8	13156.8	0.1
111-65-9	114.2	n-Octane	179.8	114.6	27507.0	0.3
1678-91-7	112.2	Ethylcyclohexane	95.5	59.8	14353.1	0.1
100-41-4	106.2	Ethylbenzene	26.6	15.8	3782.3	0.0
108-38-3	106.2	M+P-Xylene	175.1	103.7	24897.8	0.3
95-47-6	106.2	o-Xylene	38.5	22.8	5474.4	0.1
TOTAL (30 COMPOUNDS)			62178.7		9626265.3	100

TOTAL NMHC ppbc
(ALL COMPOUNDS) 65004.3

30 COMPOUNDS % OF TOTAL 95.7

TABLE 46

SAMPLE NUMBER 1023
POINT SOURCE: Pipeline Tanks

CAS #	MOL. WT	SPECIES NAME	NMHC ppbc	DIL. SAMPLE UG/M3	ORIGINAL UG/M3	PERCENT WEIGHT
74-84-0	30.1	ethane	5726.6	3843.7	110699268.4	2.1
74-98-6	44.1	Propane	33748.9	22147.7	637854210.0	12.0
75-28-5	58.1	2-Me-Propane	4966.3	3221.4	92777578.7	1.7
106-97-8	58.1	n-Butane	37156.7	24102.1	694140237.0	13.1
78-78-4	72.2	2-Me-Butane	86910.7	55987.6	1612441801.3	30.4
109-66-0	72.2	n-Pentane	71808.2	46258.6	1332247276.3	25.1
75-83-2	86.2	2,2-Dime-Butane	1180.1	756.7	21793075.3	0.4
287-92-3	70.1	Cyclopentane	2086.7	1306.6	37630355.4	0.7
75-83-2	86.2	2,3-Dime-Butane	1391.5	892.3	25697029.3	0.5
107-83-5	86.2	2-Me-Pentane	9036.6	5794.5	166880183.1	3.1
96-14-0	86.2	3-Me-Pentane	4468.4	2865.2	82518581.1	1.6
110-54-3	86.2	n-Hexane	9577.4	6141.2	176867214.0	3.3
96-37-7	84.2	Me-Cyclopentane	3595.7	2251.6	64845881.1	1.2
108-08-7	100.2	2,4-Dime-Pentane	231.0	147.6	4251342.9	0.1
71-43-2	78.1	Benzene	292.8	170.2	4900844.6	0.1
110-82-7	84.2	Cyclohexane	3050.4	1910.1	55011785.1	1.0
591-76-4	100.2	2-Me-Hexane	990.2	632.8	18223721.6	0.3
565-59-3	100.2	2,3-Dime-Pentane	271.4	173.4	4994867.8	0.1
589-34-4	100.2	3-Me-Hexane	1049.4	670.6	19313243.3	0.4
540-84-1	114.2	2,2,4-trime-pentane	702.6	447.9	12898606.8	0.2
142-82-5	100.2	n-heptane	1844.8	1178.9	33951849.8	0.6
108-87-2	98.2	Me-Cyclohexane	2588.9	1621.2	46690547.3	0.9
108-88-3	92.1	Toluene	413.7	243.1	7001323.7	0.1
592-27-8	114.2	2-Me-Heptane	450.6	287.2	8272291.8	0.2
589-81-1	114.2	3-Me-Heptane	254.9	162.5	4679554.3	0.1
111-65-9	114.2	n-Octane	570.0	363.3	10464283.9	0.2
1678-91-7	112.2	Ethylcyclohexane	255.2	159.8	4602623.1	0.1
100-41-4	106.2	Ethylbenzene	76.0	45.0	1296790.7	0.0
108-38-3	106.2	M+P-Xylene	436.8	258.8	7453134.0	0.1
95-47-6	106.2	o-Xylene	95.0	56.3	1620988.4	0.0
TOTAL (30 COMPOUNDS)			285227.5		5302020490.3	100
TOTAL NMHC ppbc (ALL COMPOUNDS)			294311.2			
30 COMPOUNDS % OF TOTAL			96.9			

TABLE 47

SAMPLE NUMBER 1032
POINT SOURCE: Terminal Tanks

CAS #	MOL. WT	SPECIES NAME	NMHC ppbc	DIL. SAMPLE UG/M3	ORIGINAL UG/M3	PERCENT WEIGHT
74-84-0	30.1	ethane	7.9	5.3	1272.6	0.4
74-98-6	44.1	Propane	75.4	49.5	11875.5	4.0
75-28-5	58.1	2-Me-Propane	103.9	67.4	16175.0	5.4
106-97-8	58.1	n-Butane	222.1	144.1	34576.2	11.5
78-78-4	72.2	2-Me-Butane	224.6	144.7	34724.8	11.6
109-66-0	72.2	n-Pentane	217.6	140.2	33642.5	11.2
75-83-2	86.2	2,2-Dime-Butane	7.0	4.5	1077.3	0.4
287-92-3	70.1	Cyclopentane	46.6	29.2	7003.0	2.3
75-83-2	86.2	2,3-Dime-Butane	24.5	15.7	3770.4	1.3
107-83-5	86.2	2-Me-Pentane	121.1	77.7	18636.4	6.2
96-14-0	86.2	3-Me-Pentane	71.9	46.1	11064.9	3.7
110-54-3	86.2	n-Hexane	110.4	70.8	16989.8	5.7
96-37-7	84.2	Me-Cyclopentane	164.6	103.1	24737.0	8.3
108-08-7	100.2	2,4-Dime-Pentane	8.7	5.6	1334.3	0.4
71-43-2	78.1	Benzene	13.4	7.8	1869.1	0.6
110-82-7	84.2	Cyclohexane	103.5	64.8	15554.6	5.2
591-76-4	100.2	2-Me-Hexane	23.6	15.1	3619.5	1.2
565-59-3	100.2	2,3-Dime-Pentane	17.9	11.4	2745.3	0.9
589-34-4	100.2	3-Me-Hexane	33.6	21.5	5153.1	1.7
540-84-1	114.2	2,2,4-trime-pentane	68.0	43.3	10403.1	3.5
142-82-5	100.2	n-heptane	49.9	31.9	7653.0	2.6
108-87-2	98.2	Me-Cyclohexane	134.6	84.3	20229.1	6.8
108-88-3	92.1	Toluene	19.3	11.3	2721.9	0.9
592-27-8	114.2	2-Me-Heptane	23.8	15.2	3641.1	1.2
589-81-1	114.2	3-Me-Heptane	11.4	7.3	1744.0	0.6
111-65-9	114.2	n-Octane	12.6	8.0	1927.6	0.6
1678-91-7	112.2	Ethylcyclohexane	13.5	8.5	2029.0	0.7
100-41-4	106.2	Ethylbenzene	4.4	2.6	625.6	0.2
108-38-3	106.2	M+P-Xylene	15.6	9.2	2218.2	0.7
95-47-6	106.2	o-Xylene	3.6	2.1	511.9	0.2
TOTAL (30 COMPOUNDS)			1955		299525.8	100
TOTAL NMHC ppbc (ALL COMPOUNDS)			2316.8			
30 COMPOUNDS % OF TOTAL			84.4			

TABLE 48

SAMPLE NUMBER 1033
POINT SOURCE: Terminal Tanks

CAS #	MOL. WT	SPECIES NAME	NMHC ppbc	DIL. SAMPLE UG/M3	ORIGINAL UG/M3	PERCENT WEIGHT
74-84-0	30.1	ethane	6.5	4.4	1047.1	0.4
74-98-6	44.1	Propane	61.8	40.6	9733.5	3.9
75-28-5	58.1	2-Me-Propane	83.7	54.3	13030.3	5.3
106-97-8	58.1	n-Butane	178.5	115.8	27788.6	11.3
78-78-4	72.2	2-Me-Butane	182.4	117.5	28200.3	11.4
109-66-0	72.2	n-Pentane	176.3	113.6	27257.2	11.0
75-83-2	86.2	2,2-Dime-Butane	5.6	3.6	861.8	0.3
287-92-3	70.1	Cyclopentane	37.8	23.7	5680.5	2.3
75-83-2	86.2	2,3-Dime-Butane	20.2	13.0	3108.6	1.3
107-83-5	86.2	2-Me-Pentane	99.1	63.5	15250.8	6.2
96-14-0	86.2	3-Me-Pentane	59.0	37.8	9079.7	3.7
110-54-3	86.2	n-Hexane	89.1	57.1	13711.9	5.6
96-37-7	84.2	Me-Cyclopentane	136.8	85.7	20559.1	8.3
108-08-7	100.2	2,4-Dime-Pentane	7.3	4.7	1119.6	0.5
71-43-2	78.1	Benzene	9.9	5.8	1380.9	0.6
110-82-7	84.2	Cyclohexane	86.7	54.3	13029.8	5.3
591-76-4	100.2	2-Me-Hexane	18.4	11.8	2822.0	1.1
565-59-3	100.2	2,3-Dime-Pentane	15.4	9.8	2361.9	1.0
589-34-4	100.2	3-Me-Hexane	29.5	18.9	4524.3	1.8
540-84-1	114.2	2,2,4-trime-pentane	58.2	37.1	8903.8	3.6
142-82-5	100.2	n-heptane	39.1	25.0	5996.7	2.4
108-87-2	98.2	Me-Cyclohexane	113.0	70.8	16982.9	6.9
108-88-3	92.1	Toluene	17.1	10.0	2411.6	1.0
592-27-8	114.2	2-Me-Heptane	21.1	13.5	3228.0	1.3
589-81-1	114.2	3-Me-Heptane	9.9	6.3	1514.6	0.6
111-65-9	114.2	n-Octane	14.4	9.2	2203.0	0.9
1678-91-7	112.2	Ethylcyclohexane	11.9	7.5	1788.5	0.7
100-41-4	106.2	Ethylbenzene	4.0	2.4	568.8	0.2
108-38-3	106.2	M+P-Xylene	14.6	8.7	2076.0	0.8
95-47-6	106.2	o-Xylene	3.2	1.9	455.0	0.2
TOTAL (30 COMPOUNDS)			1610.5		246676.7	100
TOTAL NMHC ppbc (ALL COMPOUNDS)			1902.1			
30 COMPOUNDS % OF TOTAL			84.7			

TABLE 49

SAMPLE NUMBER 1034
POINT SOURCE: Terminal Tanks

CAS #	MOL. WT	SPECIES NAME	NMHC ppbc	DIL. SAMPLE UG/M3	ORIGINAL UG/M3	PERCENT WEIGHT
74-84-0	30.1	ethane	6.1	4.1	982.6	0.4
74-98-6	44.1	Propane	58.6	38.5	9229.5	4.0
75-28-5	58.1	2-Me-Propane	78.7	51.0	12251.9	5.4
106-97-8	58.1	n-Butane	166.7	108.1	25951.6	11.3
78-78-4	72.2	2-Me-Butane	170.2	109.6	26314.1	11.5
109-66-0	72.2	n-Pentane	164.1	105.7	25371.0	11.1
75-83-2	86.2	2,2-Dime-Butane	5.3	3.4	815.6	0.4
287-92-3	70.1	Cyclopentane	35.2	22.0	5289.8	2.3
75-83-2	86.2	2,3-Dime-Butane	18.7	12.0	2877.8	1.3
107-83-5	86.2	2-Me-Pentane	91.8	58.9	14127.4	6.2
96-14-0	86.2	3-Me-Pentane	54.9	35.2	8448.7	3.7
110-54-3	86.2	n-Hexane	82.4	52.8	12680.8	5.5
96-37-7	84.2	Me-Cyclopentane	126.0	78.9	18936.0	8.3
108-08-7	100.2	2,4-Dime-Pentane	6.8	4.3	1042.9	0.5
71-43-2	78.1	Benzene	9.4	5.5	1311.1	0.6
110-82-7	84.2	Cyclohexane	80.2	50.2	12052.9	5.3
591-76-4	100.2	2-Me-Hexane	17.1	10.9	2622.6	1.1
565-59-3	100.2	2,3-Dime-Pentane	14.2	9.1	2177.8	1.0
589-34-4	100.2	3-Me-Hexane	27.1	17.3	4156.3	1.8
540-84-1	114.2	2,2,4-trime-pentane	53.7	34.2	8215.4	3.6
142-82-5	100.2	n-heptane	36.8	23.5	5643.9	2.5
108-87-2	98.2	Me-Cyclohexane	103.2	64.6	15510.0	6.8
108-88-3	92.1	Toluene	17.0	10.0	2397.5	1.0
592-27-8	114.2	2-Me-Heptane	18.5	11.8	2830.3	1.2
589-81-1	114.2	3-Me-Heptane	8.3	5.3	1269.8	0.6
111-65-9	114.2	n-Octane	12.0	7.6	1835.8	0.8
1678-91-7	112.2	Ethylcyclohexane	10.7	6.7	1608.2	0.7
100-41-4	106.2	Ethylbenzene	4.4	2.6	625.6	0.3
108-38-3	106.2	M+P-Xylene	13.4	7.9	1905.4	0.8
95-47-6	106.2	o-Xylene	3.1	1.8	440.8	0.2
TOTAL (30 COMPOUNDS)			1494.6		228923.2	100
TOTAL NMHC ppbc (ALL COMPOUNDS)			1744.4			
30 COMPOUNDS % OF TOTAL			85.7			

TABLE 50

SAMPLE NUMBER 1035
POINT SOURCE: Terminal Tanks

CAS #	MOL. WT	SPECIES NAME	NMHC ppbc	DIL. SAMPLE UG/M3	ORIGINAL UG/M3	PERCENT WEIGHT
74-84-0	30.1	ethane	5.8	3.9	934.3	0.4
74-98-6	44.1	Propane	54.1	35.5	8520.8	4.0
75-28-5	58.1	2-Me-Propane	74.0	48.0	11520.2	5.5
106-97-8	58.1	n-Butane	155.3	100.7	24176.9	11.5
78-78-4	72.2	2-Me-Butane	159.1	102.5	24598.0	11.7
109-66-0	72.2	n-Pentane	152.2	98.0	23531.2	11.2
75-83-2	86.2	2,2-Dime-Butane	4.9	3.1	754.1	0.4
287-92-3	70.1	Cyclopentane	32.8	20.5	4929.1	2.3
75-83-2	86.2	2,3-Dime-Butane	17.5	11.2	2693.1	1.3
107-83-5	86.2	2-Me-Pentane	85.1	54.6	13096.3	6.2
96-14-0	86.2	3-Me-Pentane	50.6	32.4	7787.0	3.7
110-54-3	86.2	n-Hexane	73.2	46.9	11265.0	5.3
96-37-7	84.2	Me-Cyclopentane	117.1	73.3	17598.5	8.3
108-08-7	100.2	2,4-Dime-Pentane	6.1	3.9	935.5	0.4
71-43-2	78.1	Benzene	8.4	4.9	1171.7	0.6
110-82-7	84.2	Cyclohexane	74.0	46.3	11121.1	5.3
591-76-4	100.2	2-Me-Hexane	15.5	9.9	2377.2	1.1
565-59-3	100.2	2,3-Dime-Pentane	12.7	8.1	1947.8	0.9
589-34-4	100.2	3-Me-Hexane	23.0	14.7	3527.4	1.7
540-84-1	114.2	2,2,4-trime-pentane	48.8	31.1	7465.7	3.5
142-82-5	100.2	n-heptane	33.8	21.6	5183.8	2.5
108-87-2	98.2	Me-Cyclohexane	95.4	59.7	14337.7	6.8
108-88-3	92.1	Toluene	14.3	8.4	2016.7	1.0
592-27-8	114.2	2-Me-Heptane	17.2	11.0	2631.4	1.2
589-81-1	114.2	3-Me-Heptane	8.2	5.2	1254.5	0.6
111-65-9	114.2	n-Octane	11.2	7.1	1713.5	0.8
1678-91-7	112.2	Ethylcyclohexane	10.0	6.3	1502.9	0.7
100-41-4	106.2	Ethylbenzene	3.4	2.0	483.5	0.2
108-38-3	106.2	M+P-Xylene	11.1	6.6	1578.3	0.7
95-47-6	106.2	o-Xylene	2.4	1.4	341.3	0.2
TOTAL (30 COMPOUNDS)			1377.2		210994.5	100

TOTAL NMHC ppbc
(ALL COMPOUNDS) 1593.3

30 COMPOUNDS % OF TOTAL 86.4

TABLE 51

SAMPLE NUMBER 1024
POINT SOURCE: Refinery Tanks

CAS #	MOL. WT	SPECIES NAME	NMHC ppbc	DIL. SAMPLE UG/M3	ORIGINAL UG/M3	PERCENT WEIGHT
74-84-0	30.1	ethane	247.4	166.1	332.1	7.8
74-98-6	44.1	Propane	916.4	601.4	1202.8	28.3
75-28-5	58.1	2-Me-Propane	239.5	155.4	310.7	7.3
106-97-8	58.1	n-Butane	805.7	522.6	1045.3	24.6
78-78-4	72.2	2-Me-Butane	310.6	200.1	400.2	9.4
109-66-0	72.2	n-Pentane	309.8	199.6	399.1	9.4
75-83-2	86.2	2,2-Dime-Butane	4.0	2.6	5.1	0.1
287-92-3	70.1	Cyclopentane	19.4	12.1	24.3	0.6
75-83-2	86.2	2,3-Dime-Butane	9.9	6.3	12.7	0.3
107-83-5	86.2	2-Me-Pentane	68.5	43.9	87.8	2.1
96-14-0	86.2	3-Me-Pentane	40.8	26.2	52.3	1.2
110-54-3	86.2	n-Hexane	65.6	42.1	84.1	2.0
96-37-7	84.2	Me-Cyclopentane	47.6	29.8	59.6	1.4
108-08-7	100.2	2,4-Dime-Pentane	3.1	2.0	4.0	0.1
71-43-2	78.1	Benzene	7.0	4.1	8.1	0.2
110-82-7	84.2	Cyclohexane	26.9	16.8	33.7	0.8
591-76-4	100.2	2-Me-Hexane	8.4	5.4	10.7	0.3
565-59-3	100.2	2,3-Dime-Pentane	5.5	3.5	7.0	0.2
589-34-4	100.2	3-Me-Hexane	11.6	7.4	14.8	0.3
540-84-1	114.2	2,2,4-trime-pentane	16.3	10.4	20.8	0.5
142-82-5	100.2	n-heptane	25.9	16.6	33.1	0.8
108-87-2	98.2	Me-Cyclohexane	25.3	15.8	31.7	0.7
108-88-3	92.1	Toluene	13.3	7.8	15.6	0.4
592-27-8	114.2	2-Me-Heptane	8.2	5.2	10.5	0.2
589-81-1	114.2	3-Me-Heptane	4.2	2.7	5.4	0.1
111-65-9	114.2	n-Octane	11.1	7.1	14.2	0.3
1678-91-7	112.2	Ethylcyclohexane	3.9	2.4	4.9	0.1
100-41-4	106.2	Ethylbenzene	2.9	1.7	3.4	0.1
108-38-3	106.2	M+P-Xylene	9.2	5.5	10.9	0.3
95-47-6	106.2	o-Xylene	2.6	1.5	3.1	0.1
TOTAL (30 COMPOUNDS)			3270.6		4248.0	100
TOTAL NMHC ppbc (ALL COMPOUNDS)			3359.6			
30 COMPOUNDS % OF TOTAL			97.4			

TABLE 52

SAMPLE NUMBER 1025
POINT SOURCE: Refinery Tanks

CAS #	MOL. WT	SPECIES NAME	NMHC ppbc	DIL. SAMPLE UG/M3	ORIGINAL UG/M3	PERCENT WEIGHT
74-84-0	30.1	ethane	187.9	126.1	30268.7	8.2
74-98-6	44.1	Propane	696.7	457.2	109730.3	29.6
75-28-5	58.1	2-Me-Propane	180.3	117.0	28068.8	7.6
106-97-8	58.1	n-Butane	589.5	382.4	91772.5	24.8
78-78-4	72.2	2-Me-Butane	217.3	140.0	33596.1	9.1
109-66-0	72.2	n-Pentane	225.3	145.1	34833.0	9.4
75-83-2	86.2	2,2-Dime-Butane	2.2	1.4	338.6	0.1
287-92-3	70.1	Cyclopentane	14.2	8.9	2134.0	0.6
75-83-2	86.2	2,3-Dime-Butane	6.0	3.8	923.4	0.2
107-83-5	86.2	2-Me-Pentane	46.7	29.9	7186.8	1.9
96-14-0	86.2	3-Me-Pentane	28.0	18.0	4309.0	1.2
110-54-3	86.2	n-Hexane	40.3	25.8	6201.9	1.7
96-37-7	84.2	Me-Cyclopentane	34.0	21.3	5109.7	1.4
108-08-7	100.2	2,4-Dime-Pentane	1.1	0.7	168.7	0.0
71-43-2	78.1	Benzene	3.6	2.1	502.1	0.1
110-82-7	84.2	Cyclohexane	19.4	12.1	2915.5	0.8
591-76-4	100.2	2-Me-Hexane	4.4	2.8	674.8	0.2
565-59-3	100.2	2,3-Dime-Pentane	3.4	2.2	521.4	0.1
589-34-4	100.2	3-Me-Hexane	8.5	5.4	1303.6	0.4
540-84-1	114.2	2,2,4-trime-pentane	11.3	7.2	1728.7	0.5
142-82-5	100.2	n-heptane	18.7	11.9	2868.0	0.8
108-87-2	98.2	Me-Cyclohexane	14.5	9.1	2179.2	0.6
108-88-3	92.1	Toluene	4.7	2.8	662.8	0.2
592-27-8	114.2	2-Me-Heptane	4.7	3.0	719.0	0.2
589-81-1	114.2	3-Me-Heptane	2.2	1.4	336.6	0.1
111-65-9	114.2	n-Octane	6.4	4.1	979.1	0.3
1678-91-7	112.2	Ethylcyclohexane	2.0	1.3	300.6	0.1
100-41-4	106.2	Ethylbenzene	0.6	0.4	85.3	0.0
108-38-3	106.2	M+P-Xylene	0.0	0.0	0.0	0.0
95-47-6	106.2	o-Xylene	0.8	0.5	113.8	0.0
TOTAL (30 COMPOUNDS)			2374.7		370532.1	100

TOTAL NMHC ppbc (ALL COMPOUNDS)	2417
30 COMPOUNDS % OF TOTAL	98.2

TABLE 53

SAMPLE NUMBER 1026
POINT SOURCE: Refinery Tanks

CAS #	MOL. WT	SPECIES NAME	NMHC ppbc	DIL. SAMPLE UG/M3	ORIGINAL UG/M3	PERCENT WEIGHT
74-84-0	30.1	ethane	355.0	238.3	57186.7	1.6
74-98-6	44.1	Propane	2428.2	1593.5	382441.5	10.5
75-28-5	58.1	2-Me-Propane	1179.7	765.2	183654.0	5.0
106-97-8	58.1	n-Butane	5206.8	3377.4	810587.2	22.2
78-78-4	72.2	2-Me-Butane	3262.0	2101.4	504328.5	13.8
109-66-0	72.2	n-Pentane	4244.7	2734.4	656260.9	18.0
75-83-2	86.2	2,2-Dime-Butane	52.6	33.7	8094.8	0.2
287-92-3	70.1	Cyclopentane	281.9	176.5	42363.5	1.2
75-83-2	86.2	2,3-Dime-Butane	121.8	78.1	18744.2	0.5
107-83-5	86.2	2-Me-Pentane	1041.8	668.0	160325.6	4.4
96-14-0	86.2	3-Me-Pentane	588.4	377.3	90550.6	2.5
110-54-3	86.2	n-Hexane	1465.2	939.5	225483.8	6.2
96-37-7	84.2	Me-Cyclopentane	706.9	442.7	106237.0	2.9
108-08-7	100.2	2,4-Dime-Pentane	35.7	22.8	5475.2	0.2
71-43-2	78.1	Benzene	114.7	66.7	15998.6	0.4
110-82-7	84.2	Cyclohexane	410.0	256.7	61617.1	1.7
591-76-4	100.2	2-Me-Hexane	188.4	120.4	28894.4	0.8
565-59-3	100.2	2,3-Dime-Pentane	69.3	44.3	10628.4	0.3
589-34-4	100.2	3-Me-Hexane	350.2	223.8	53709.2	1.5
540-84-1	114.2	2,2,4-trime-pentane	226.0	144.1	34575.0	0.9
142-82-5	100.2	n-heptane	449.7	287.4	68969.3	1.9
108-87-2	98.2	Me-Cyclohexane	420.8	263.5	63242.4	1.7
108-88-3	92.1	Toluene	97.9	57.5	13806.9	0.4
592-27-8	114.2	2-Me-Heptane	94.2	60.0	14411.3	0.4
589-81-1	114.2	3-Me-Heptane	45.5	29.0	6960.9	0.2
111-65-9	114.2	n-Octane	90.1	57.4	13784.1	0.4
1678-91-7	112.2	Ethylcyclohexane	29.2	18.3	4388.6	0.1
100-41-4	106.2	Ethylbenzene	12.6	7.5	1791.6	0.0
108-38-3	106.2	M+P-Xylene	31.7	18.8	4507.5	0.1
95-47-6	106.2	o-Xylene	7.4	4.4	1052.2	0.0
TOTAL (30 COMPOUNDS)			23608.4		3650071.0	100

TOTAL NMHC ppbc
(ALL COMPOUNDS) 24482

30 COMPOUNDS % OF TOTAL 96.4

TABLE 54

SAMPLE NUMBER 1027
POINT SOURCE: Refinery Tanks

CAS #	MOL. WT	SPECIES NAME	NMHC ppbc	DIL. SAMPLE UG/M3	ORIGINAL UG/M3	PERCENT WEIGHT
74-84-0	30.1	ethane	391.0	262.4	7558309.3	1.6
74-98-6	44.1	Propane	2684.7	1761.8	50740830.0	10.5
75-28-5	58.1	2-Me-Propane	1311.7	850.8	24504429.9	5.1
106-97-8	58.1	n-Butane	5776.2	3746.8	107907667.7	22.3
78-78-4	72.2	2-Me-Butane	3627.0	2336.5	67291212.9	13.9
109-66-0	72.2	n-Pentane	4707.1	3032.3	87330153.9	18.0
75-83-2	86.2	2,2-Dime-Butane	58.4	37.4	1078481.1	0.2
287-92-3	70.1	Cyclopentane	313.7	196.4	5657086.5	1.2
75-83-2	86.2	2,3-Dime-Butane	135.4	86.8	2500451.1	0.5
107-83-5	86.2	2-Me-Pentane	1155.3	740.8	21335090.1	4.4
96-14-0	86.2	3-Me-Pentane	653.1	418.8	12060891.0	2.5
110-54-3	86.2	n-Hexane	1627.3	1043.5	30051581.6	6.2
96-37-7	84.2	Me-Cyclopentane	785.4	491.8	14164128.0	2.9
108-08-7	100.2	2,4-Dime-Pentane	39.9	25.5	734322.9	0.2
71-43-2	78.1	Benzene	129.9	75.5	2174247.6	0.4
110-82-7	84.2	Cyclohexane	460.9	288.6	8312002.3	1.7
591-76-4	100.2	2-Me-Hexane	213.5	136.4	3929271.4	0.8
565-59-3	100.2	2,3-Dime-Pentane	78.2	50.0	1439199.2	0.3
589-34-4	100.2	3-Me-Hexane	263.7	168.5	4853156.3	1.0
540-84-1	114.2	2,2,4-trime-pentane	255.4	162.8	4688733.5	1.0
142-82-5	100.2	n-heptane	510.1	326.0	9387922.0	1.9
108-87-2	98.2	Me-Cyclohexane	477.6	299.1	8613467.3	1.8
108-88-3	92.1	Toluene	114.0	67.0	1929298.8	0.4
592-27-8	114.2	2-Me-Heptane	104.9	66.9	1925795.4	0.4
589-81-1	114.2	3-Me-Heptane	51.5	32.8	945457.2	0.2
111-65-9	114.2	n-Octane	106.5	67.9	1955168.8	0.4
1678-91-7	112.2	Ethylcyclohexane	32.5	20.4	586149.1	0.1
100-41-4	106.2	Ethylbenzene	15.1	8.9	257651.8	0.1
108-38-3	106.2	M+P-Xylene	45.7	27.1	779780.7	0.2
95-47-6	106.2	o-Xylene	9.2	5.5	156979.9	0.0
TOTAL (30 COMPOUNDS)			26134.9		484848917.5	100
TOTAL NMHC ppbc (ALL COMPOUNDS)			27246.6			
30 COMPOUNDS % OF TOTAL			95.9			